

1ST LOOK

IS ULTRA HD VIDEO THE FUTURE?

Gosh, Tosh!

First
passive
3DTV
p58



HOME CINEMA

Reviewed SONY BDV-E880 SYSTEM PARADIGM M-ONES
ACOUSTIC ENERGY COMPACT/NEO 6.1 PACK NAD T757 AMPLIFIER

Choice

DIY cinema fit for superheroes!

Design it, build it, enjoy it — Part 1 of our in-depth guide inside!

Specs-free 3D

Close encounter
with Toshiba's TV

Huge sound

From Velodyne's
tiny SPL-800 sub

- X-MEN 1ST CLASS
- JURASSIC PARK
- THOR ■ BEN-HUR
- BLITZ & MORE...

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WONDER**
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projector will
make you look
twice p42

Great Danes

Jamo S-series in-depth review



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WELCOME

This issue we're giving you a taster of some of the technologies we expect to see in 2012. From shows including IFA and CEDIA, we've come back with hot news about Super Hi-Def TV, 4K projectors and glasses-free 3D TV - all of which are likely to feature in the home cinema of the future!



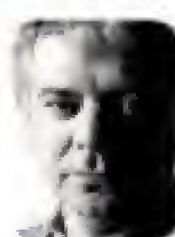
But if you can't wait to enjoy home cinema entertainment, there's no better time to get stuck in, as **we kick off our guide to designing, building and tuning your own room on page 30.**

And as usual, we have reviews of the hottest gear to equip your home cinema, from Sony's fabulous 3D projector on **page 42**, to Toshiba's first passive 3D TV on **page 58**, Jamo's floorstanding S-series speakers on **page 50**, and amps from NAD and Marantz. So whether you're an avid DIY-er or a convinced couch potato, the future of home cinema is right here in your hands!

Chris Jenkins
Editor

TEAM HCC

Chris Jenkins:
Industry veteran Chris remembers when movies came on stone tablets



Mark Craven:
HCC's Deputy Editor is as passionate about AV gear as he is about Jason Statham



Anton van Beek:
Anton's love of cinema makes him the fount of all movie knowledge



James Waldron:
Taking on our tech testing calls on James' in-depth audio engineering skills



Jill Lubetkin:
Jill's magazine skills mean that even the techiest articles make perfect sense



John Rook:
Art Editor John was here when amps were all silver the first time around



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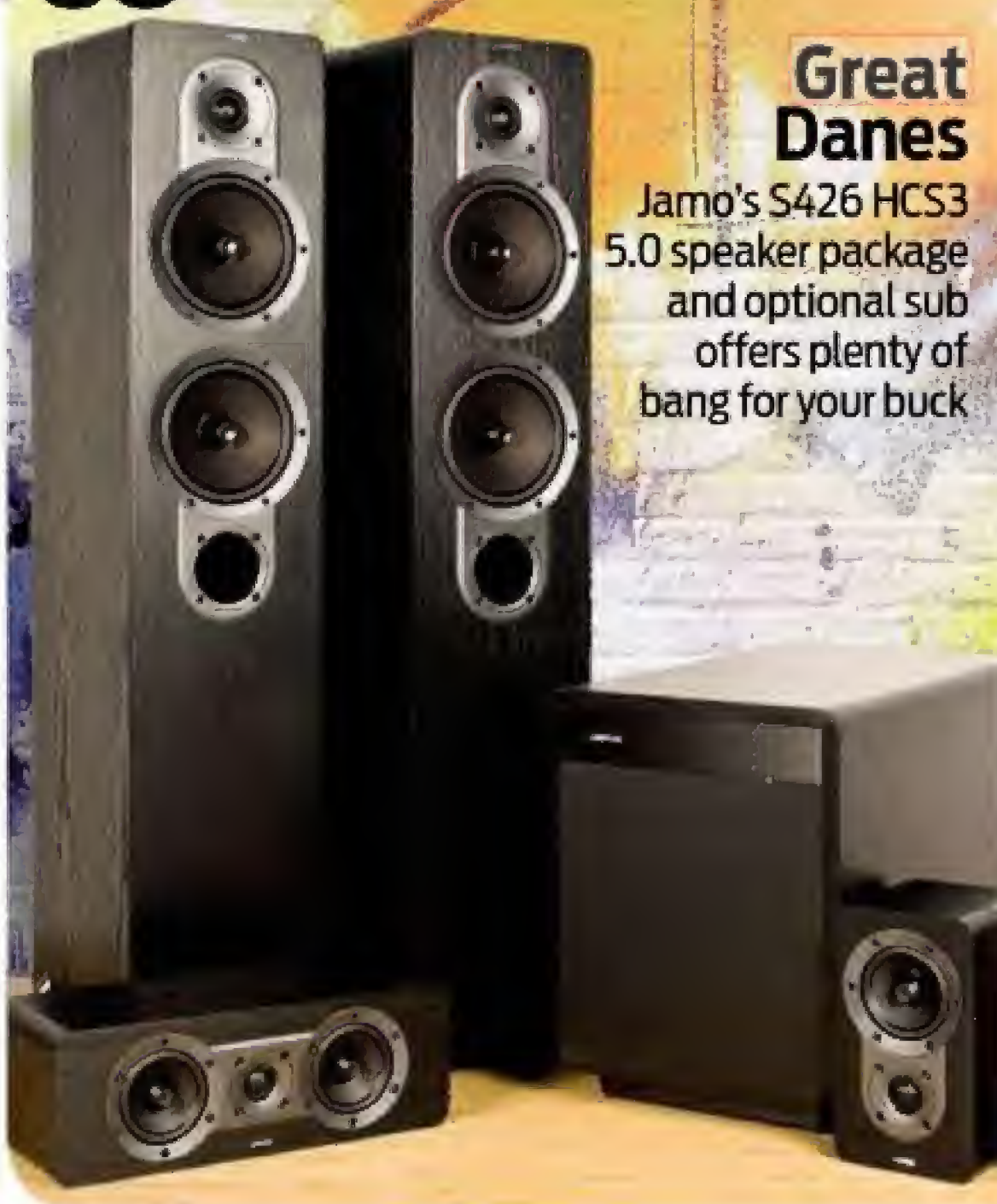
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Great Danes

Jamo's S426 HCS3 5.0 speaker package and optional sub offers plenty of bang for your buck

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Our guarantee to you:

Equipment reviewed in *Home Cinema Choice* is measured and quantified by Future Tech Labs, which for more than 15 years has set the standard for independent AV test & measurement. The findings of the Tech Labs are used to underpin the subjective opinions of our Reviews team, ensuring that you receive the best possible advice when it comes to planning your next purchase



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This issue's team of expert writers are the best qualified in the business

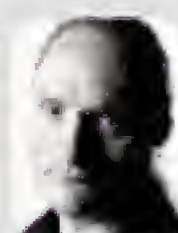
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Play it your way

Pioneer has developed a revolutionary new speaker system. This system features HVT technology to produce immersing sound in a full and unique 360° soundscape.



HTP-SLH500

The superslim and stylish HTP-SLH500 home theatre package includes the S-HV500 'Sound Wing' satellite speakers, along with the VSX-S300 slim AV receiver and S-SWL500 slim subwoofer.

Pioneer

www.pioneer.co.uk

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BULLETIN

→ **News highlights** OPTOMA Projector brand joins the 3D gang with two new PJs
WHARFEDALE Low-cost 5.1 package from the Brit hi-fi expert PIONEER LX-branded universal
Blu-ray player SHARP 8KTV unveiled at IFA tech show NEWS X10 Hot stories in bite-size chunks
CAPTAIN AMERICA Get Marvel's latest comicbook caper on BD AND MUCH MORE!

The future of TV?

Toshiba ZL2 → www.toshiba.co.uk



Get ready for glasses-free 3DTV! Toshiba has confirmed that its autostereoscopic technology is coming to the UK in the New Year in the form of its new 55in ZL2. Based around the manufacturer's much-hyped CEVO Engine, the ZL2 features a Quad Full HD display (3840 x 2160) and can provide 3D images for up to nine different viewers' positions, using face-tracking technology to detect their positions and adjust accordingly. Of course, the real test will be to see how it stacks up against existing stereoscopic TV tech – but even if it falls flat, we like the idea of a 4K TV...

HCC Online...

Looking for breaking AV news, blogs, features, & reviews? For your daily fix visit us at www.homecinemachoice.com Follow us on Twitter @hccmag

Double vision

Optoma HD33/HD83 → www.optoma.co.uk



Projector specialist Optoma has been bitten by the stereoscopic bug, introducing two new affordable 3D-compatible native 1080p projectors into its lineup.

Designed to set a new price-point for 3D video-chuckers, the white-cased HD33 ships with one pair of 3D-RF glasses and offers PureMotion4 and PureD picture processing technology, 1,800 ANSI Lumens brightness and two HDMI inputs – all for just £1,350!

Those with a little more money to spend can consider the £2,400 ThemeScene HD83, which adds a CMS+ colour management system, install-friendly lens shift and wide zoom range, two pairs of 3D-RF glasses and what Optoma claims is 'best-in-class colour saturation'.

Look out for reviews soon in *HCC*.

Partner with...

Harman Kardon BDS 770

Home cinema system → £1,200 approx



3D Blu-ray playback is one of the key selling points of this new Harman Kardon 5.1 all-in-one home cinema package, making it an ideal match for Optoma's new PJs. This neat-looking system matches the BDS 570 Blu-ray receiver with the brand's existing HKTS 9 speaker package. Features include 3-In/1-out HDMI, EzSet/EQ auto calibration, and USB file playback. www.harman.com

Universal players



Pioneer has announced the arrival of two 3D models. The

£250 BDP-440 should hit the stores as you read this, with the £350 BDP-LX55 (pictured) arriving in November. Both are universal players offering support for 3D Blu-ray, SACD and DVD-Audio, as well as featuring DLNA-certified media playback (supporting MKV, DivX Plus HD, WMV, WMA and MP3 playback), iControlAV2 app control and Pioneer's PQLS tech. The LX55 adds an advanced anti-vibration construction, gold-plated HDMI terminals and a 32bit/192kHz DSD capable DAC. www.pioneer.co.uk

Pixel packin'



Sharp has showed a massive 85in screen with a resolution 16x that of current HD.

The Super Hi-Vision screen has a resolution of 7,680 x 4,320 pixels and was created in conjunction with Japanese national broadcaster, NHK. The LCD panel uses a technology called UV2A (Ultra-violet induced multi-domain vertical alignment) to produce a luminance of 300cd/m² with a gradation of 10bits for each RGB pixel. Super Hi-Vision also supports 22.2-channel sound. NHK hopes to begin experimental broadcasts in the format in 2020. www.sharp.co.uk

Fab four plus one



Priced at about £400 and available in a choice of white and black high-gloss finishes, Wharfedale's

new DXHI HCP 5.1 system consists of four DX-1 Satellites (with a 0.75in silk dome tweeter and 3in mid/bass driver), a DX-1 Centre (combining two 3in mid/bass drivers and a 0.75in tweeter) and the DX-1 Subwoofer (combining a 8in long-throw bass cone with a 150W Class D amplifier). 'Modern movie soundtracks are exceptionally demanding, but this package is tailor-made for the job,' says director of acoustic design Peter Comeau. www.wharfedale.co.uk

Sony sees the light with 4K

Projectors raise the bar for domestic viewing standards

Sony has launched two projectors, one of them a 4K model likely to shake up the domestic projection market.

Sony Professional's latest home cinema projector, the VPL-VW95ES, is a successor to the VPL-VW90ES, which was announced last September, and was Sony's first 3D home cinema projector. Speaking to *HCC* exclusively at the IFA show, Sony's Product Manager, Tak Nakane, claims the VPL-VW95ES 'offers superb picture quality with high dynamic contrast ratio of 150,000:1, and a more real cinematic experience. Customer feedback on the VPL-VW90ES was carefully considered and changes were made accordingly to ensure the VPL-VW95ES gives viewers the best home cinema experience yet.'

The most significant features include reduced fan noise, a flexible picture calibration system, and a picture position memory which allows the user to set the 2.35:1 aspect ratio with one button.

The SXRD projector features Sony's Advanced Iris 3 technology, which includes a contrast enhancer to maximize the dynamic contrast ratio when used with the iris, giving a crisper and brighter final image. Also featured are Motionflow technology to reduce motion blur and judder, and a 'converted 3D' mode, which uses a unique algorithm to reproduce 3D from any 2D source.

Lighten up

Sony's 3D glasses have also been upgraded so they are lighter by about 24 per cent, and the



Sony's 4K projector:
An installer's dream

Tak Nakane, Sony Product Manager, 'the VPL-VW95ES offers superb picture quality'



transmitter has been built around the lens negating connection or installation with a cable.

The VPL-VW95ES will on sale across Europe in October and is expected to cost around £5,000. Look out for a review soon in *HCC*.

Shown to *HCC* in secret at IFA, and later launched at CEDIA in Indianapolis, Sony Europe has announced a 4K home theatre projector, the VPL-VW1000ES. This ultra hi-res device is the first 4K (4,000-line resolution) projector aimed at the home. Previous models have been designed for the professional market.

While the 720p and 1080p standards are described in terms of their vertical resolution, 4K is defined in terms of its horizontal resolution, which is a bit confusing, but is arguably more accurate, as it doesn't change with the different aspect ratios of movies.

Specifically designed for custom installers, the VPL-VW1000ES has a resolution of 4,096 x 2160 and is claimed to have 2,000 ANSI-lumens of brightness. It has a new SXRD 4K panel, which in combination with Iris3 technology is claimed to

achieve a 1,000,000:1 contrast.

The exact pricing of this next-gen PJ is still to be announced. But it won't be cheap...

Playlist...

Team *HCC* reveals its Playback picks of the last month

The Bomber (R2 DVD)



Subtitled Russian TV mini-series, repackaged as a gripping three-hour spectacle of WW2 adventure and betrayal. *CJ*

Fast & Furious 5 (All-region BD)



The incredible action scenes of the latest in the *Fast...* franchise make it pure home cinema magic. *MC*

Brighton Rock (Region 2 DVD)



Not a patch on the Boulting Bros version, but good fun for spotting UK's South Coast locations. *JL*

Scarface (All-region BD)



Pacino's best movie gets a barnstorming new 7.1 soundtrack that packs plenty of punch during the final shootout. *JW*

Brotherhood of the Wolf (Region B BD)



Okay, so it's not the Director's Cut. And it exhibits signs of DNR scrubbing. But I'm just thrilled to finally have this superb French action flick in hi-def! *AvB*

Tech Diary

Our calendar is here to make sure you don't miss out...

→ OCTOBER

21: Contagion



Gwyneth Paltrow, Matt Damon and Jude Law run the risk of coming down with something nasty in this high-profile thriller about the outbreak of a deadly disease. Catch it at UK cinemas from today.

www.warnerbros.co.uk

22: Home Entertainment: The Manchester Show

This two-day AV show opens its door today at Manchester's Renaissance Hotel. Pop along if you want to catch the latest kit from B&W, Panasonic, Onkyo, KEF and many more.

www.manchestershow.co.uk

24: Jurassic Park: Ultimate Trilogy

Another 'most-wanted' movie franchise makes the jump to Blu-ray in the UK today.

www.universalpictures.co.uk

26: The Adventures of Tintin: The Secret of the Unicorn

Steven Spielberg brings Hergé's boy detective to the big screen today in this CGI spectacular scripted by Steven Moffat, Edgar Wright and Joe Cornish.

www.paramountpictures.co.uk

31: Mimic: The Director's Cut It's Halloween! Celebrate with this expanded Blu-ray release of Guillermo Del Toro's underrated mutant cockroach flick, which boasts seven minutes of added footage and plenty of juicy extras.

→ NOVEMBER

7: Rare Exports: A Christmas Tale



Today sees the belated UK DVD and Blu-ray release of this black Christmas comedy about the horror unleashed when an archaeological dig in Finland unearths what appears to be Santa's body.

www.iconmovies.co.uk

17: HCC #202

Your favourite home cinema magazine hits the stands today, packed with hardware tests, features, outspoken opinion and full-on software reviews.

Cameron: BBC can push 3D

'We could be doing all kinds of things together,' says format king

Not only is James Cameron once again the hottest director in Hollywood, he's a technophile who has almost single-handedly driven the 3D revolution of the last two years. So when HCC was invited to chat with him at the IBC tech show in Amsterdam, we were there quicker than you can say 'Heineken'.

Cameron is a busy man. Not only is he beaver away on the *Avatar* sequel, he's experimenting with high frame-rate filming, overseeing the 3D conversion of *Titanic* and working with the BBC on a full-length 3D version of *Walking with Dinosaurs*, which will be released in the IMAX in the UK.

So what's it like working with the Beeb?

'We had a very good meeting with the BBC here, where we said we could be doing all kinds of things together,' reveals Cameron. 'They have held back a little bit with 3D, whereas BSkyB has jumped in, ESPN has jumped in. The point I made to the head of BBC was that you can't hold back indefinitely. You have to muscle in on this; you have to learn how to do this. What broadcasters are starting to wake up to is that 3D is going to happen as soon as the cost deltas between the normal 3D productions and 2D productions start to reduce.'

That, of course, is where the Shadow D Rig comes in. Developed by the Cameron/Pace group, which the director set up with cinematographer and long-time collaborator Vince Pace, it allows you to shoot 2D and 3D content simultaneously.

'A lot of people trapped themselves into a kind of failure loop, where broadcasters said that to do 3D it has to be a separate production,' says Cameron. 'But if you try to do that with sport,

all of a sudden your 3D cameras are relegated to the



James Cameron is spending \$18m and 12 months on the *Titanic* 3D conversion

worst camera positions. Then they are being operated by people who are 3D camera

operators and not operators for that particular sport. [With the Shadow D Rig] you are using a 3D camera that is being driven by a cameraman who knows that sport, knows the play and knows where the ball is going and we get it right.'

So will we see an improvement in the 3D content we're watching?

Yes, says Cameron. 'But for the general public, the biggest improvement we can make is to give them more stuff. So when they do purchase their 3D TV set, there is some programming to justify it.'

As for the issue of 3D quality in movies, Cameron singles out both the recent *Transformers* flick and *Alice in Wonderland* as examples where the 3D was done well. Yet *Alice...*, like his forthcoming *Titanic* re-release, was a 2D-3D conversion. So what went wrong with the widely-panned *Clash of the Titans*?

'Well, that was a classic mistake. They tried to make 3D a post-production process like sound editing and that doesn't work. The filmmaker has to be involved and it takes time and good money to do a proper conversion.'

'All of those things work against you in post-production, where the filmmaker is spread thin with getting the visual effects and getting the sound and music done, so can't be looking after the 3D and somebody else is doing it.'

'They spend five weeks getting stuff done that should take five months, or eight weeks that should take 8 months, they spend \$10million on something that costs twice that. We are spending \$18m on *Titanic* and giving the project a year.'



Alice..., like the re-release of *Titanic* (above), is a 2D-3D conversion



Born in the USA

Captain America: The First Avenger • Paramount Home Entertainment • All-region Blu-ray/R2 DVD

Next summer sees the cinema release of director Joss Whedon's *The Avengers*, bringing together Marvel's biggest superheroes in one epic action blockbuster. Fan-favourites Iron Man, Thor and the Hulk have already had their own standalone movies leading into *The Avengers*, and on December 5 the iconic Captain America joins them on BD (both regular 2D and 3D Super Play editions) and DVD in the UK.

Extras confirmed for the HD release include a chat track, behind-the-scenes featurettes, deleted scenes and the short film *A Funny Thing Happened on the Way to Thor's Hammer*.



Talkback

Team HCC discusses Sony's changing approach to the Cloud



Sony's vision of a multi-platform, cloud-based media service is the shape of the future, by

Vectron! Along with personal space helicopters, jet packs and moon pets, it will be every person's right to have all their media kept on a gigantic server in Luxembourg, or on Mars. Hold on, though – the ability to sling content from one device to another is attractive, but in this virtual world of entertainment, not only will we have no physical possessions to show for our investment in media, we might be giving control over both the hardware and the software we use to the same company. And that starts to sound more like 1984 than the future... **CJ**



So, Sony has done away with its Qriocity service (well, the name at least) after a little

over a year. This, of course, follows Panasonic's rebranding of its own portal from Viera Cast to Viera Connect, and Samsung moving from 'Internet@TV' to 'Smart Hub'. At this rate, Toshiba's new Places portal will have a different name by Christmas. And major consumer electronics brands thrashing blindly around, hoping something will stick, certainly makes the Smart TV revolution look increasingly chaotic. **AvB**

Sony doubles its energies

Setbacks of 2011 won't stop the brand's multi-platform strategy

In a bullish opening speech at the IFA show in Berlin, Sony's CEO Sir Howard Stringer claimed the company was in a good position to dominate the entertainment industry and had plans to launch an online network to do just that.

Admitting that the economic recession, the Japan earthquake and the PlayStation Network hacking debacle had made for a difficult year, Stringer maintained that with its connections in both entertainment and hardware manufacture, Sony was in a better position than any of its competitors to mount a revival.

Cunning plan

Sony's plans rely on five main hardware platforms: tablets, smartphones, laptops, readers and games handhelds – and on the Sony Entertainment Network. This would replace the existing Qriocity and PlayStation Network services, with a single-account, multi-platform, cloud-based system offering entertainment media from Sony and third parties in all sorts of formats.

'This is the new Sony connected era,' said Stringer, who painted a picture of a 'media sphere', in which you could access premium video services via Sony Bravia TV or PlayStation, and 'throw' music or pictures from audio players or tablets to a networked entertainment system.

Kazuo Hirai, president of the newly formed Consumer Products and Services division, spoke about working with Google to



Howard Stringer: Confident Sony's cloud-based system will advance the brand

develop the Sony Entertainment Network, with over 80 video-on-demand services in an increasing number of European territories. But there was no mention of Sony's Google-powered smart TVs, although some prototypes were seen at IFA.

Release dates and prices were announced for the Android devices Tablet S (€479) and the dual-screen folding Tablet P (€599), both on sale in October. Also on the way are new Sony book readers (including a Harry Potter-themed edition to tie in with the Pottermore website); Vaio laptop PCs including a 3D model; the Xperia Arc S smartphone, a new flagship Walkman audio player, and the PS Vita handheld game player.

The only 'home cinema' product Stringer mentioned, though, was the HMZ-T1

Personal 3D Viewer, the world's first 3D-compatible head-mounted display equipped with HD OLED panels. With its two 0.7in 1280 x 720 pixel panels, the wearable headset simulates the effect of a 750in movie theatre screen at a virtual viewing distance of 20metres.

The headset, which is expected to cost £800, also has a simulated 5.1-channel surround sound system featuring cinema, game, music and standard playing modes.



Game for a laugh : don't the Personal 3D Viewer

What's in STOR?



Toshiba is aiming for the upgrade

market with STOR.E TV Pro, a set-top box designed to bring Smart TV functions to older sets. The multimedia console features full web browsing capabilities and a video conferencing mode, and is connected to the TV via its HDMI port.

An innovative remote control connects to the STOR.E TV PRO via Bluetooth, and has standard remote functions on one side and a keyboard and trackpad on the other. Availability is from late this year. As yet no prices have been confirmed.

www.toshiba-multimedia.com

TiVo's Elite



TiVo has unveiled its most

high-tech PVR to date at in the US. The new TiVo Premiere Elite features four tuners, a 2TB hard drive (enough for about 300hrs of HD content), and even an eSATA port to enable users to connect an external hard drive. The big question for UK TiVo owners is whether any of the Elite's impressive features will make their way into the second-generation of Virgin Media's hardware. We've put the question to Virgin Media, but as yet it is unable to confirm which, if any, features will make the jump to these shores.

www.tivo.com

Rock your_World



German speaker expert Canton has launched a low-cost, mix-and-match wireless audio range

dubbed your_World. The lineup currently consists of three components: the your_Stick USB transmitter for PC and Mac (£75), the your_Dock iPhone/iPod docking station (£100) and the your_Duo bookshelf stereo speakers (£450), with two additional speaker products, the portable, compact your_Solo and the your-Sub 100W active sub due to follow in Spring 2012. Canton promises that your_World maintains the brand's reputation 'for top-quality sound'.

www.unlimited.com

Harry potters on



Warner Home Video has confirmed that *Harry Potter and the Deathly Hallows: Part 2* will be working its

magic on DVD, Blu-ray and 3D Blu-ray in the UK in the run-up to Xmas. Available from December 2, the standard-def release promises deleted scenes, a WB Studio Tour and three featurettes (*The Goblins of Gringotts*, *The Women of Harry Potter* and *When Harry Left Hogwarts*), while the two Blu-ray releases add a PiP Maximum Movie Mode hosted by actor Matthew Long and *A Conversation with JK Rowling and Daniel Radcliffe*.

www.warnerbros.co.uk

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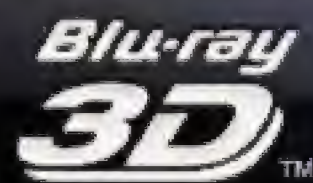
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What Hi-Fi? Sound and Vision (July 2011)



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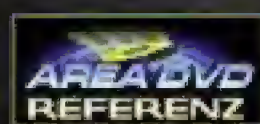
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This month's top 10 news stories in handy, bite-sized chunks...

1 Force of habit

Millions of *Star Wars* fans bought Lucas's six-film space opera all over again when the franchise made its Blu-ray debut in September. The nine-disc *Star Wars: The Complete Saga* became the best-selling Blu-ray catalogue release of all time in its first week of release, trousering around \$84million worldwide along the way.



2 Goofy thinking on 3D

Conflicting reports indicate that people aren't wowed by 3D films but love 3D TVs. In a YouGov survey of British cinema-goers, only 22 per cent of respondents felt 3D improves the cinema experience, while 41 per cent thought 3D is just a gimmick. However, over in the US, a survey about 3D TV conducted at Disney's D23 Expo found that a massive 71 per cent thought it was better than 2D TV and 50 per cent wished they had a 3D TV at home.

3 Samsung's box is the top

Following its success with Virgin Media's V+PVR, Samsung Electronics Co. Ltd has been selected by Virgin Media to become a supplier of the company's award-winning TiVo set-top boxes. Samsung's Virgin Media TiVo box was unveiled at the IBC expo in September and will start rolling out to consumers before the end of the year.

4 Fifth HD element

Freeview HD could be getting an extra hi-def channel in 2012. Industry regulator Ofcom claims that it has been able to create the additional bandwidth needed for a fifth HD channel on the service by 'reorganising existing TV services' as well as the introduction of MPEG4 and DVB-T2 technology. Ofcom is currently inviting applications from broadcasters for the additional HD slot.

5 Streaming deal

Movie streaming service Netflix has signed a major deal with DreamWorks for the rights to its animated features (including the recent hits *Kung Fu Panda* and *How to Train Your Dragon*). The deal, believed to cost Netflix an eye-watering \$30million per movie, represents the first time a major Hollywood studio has chosen a streaming service over pay-TV in the US. Netflix is rumoured to be coming to the UK in 2012.

6 YouView forges on

YouView, the troubled on-demand IPTV set-top box initiative backed by BBC, ITV, BT, Channel 4, Talk Talk, Arqiva and Channel 5 insists it is on track for a 2012 launch, and has appointed Chris Bramley, one of the chief architects of Sky Go, as Chief Technology Officer.

7 Speedy Britannia!

A study by Pando Networks shows that the UK isn't doing as badly as many people think for download speeds. The global average download speed is 580KBps, and the UK average clocks in at a slightly better 599KBps - not a patch on South Korea's 2,202KBps, but better than the 56KBps in Algiers!

8 On-demand delivery

Is YouTube gearing up to take on traditional TV broadcasters? Rumours indicate the video-sharing site is set to launch 12 scheduled video-streaming channels in 2012, each based around a specific theme such as fashion and sports. The company is reportedly in talks with content providers and is spending serious money to acquire suitable video material.

9 Freesat-isfaction

Subscription-free satellite TV service Freesat has announced it has sold over two million products since its launch in 2008 and is now the fastest-growing TV platform in the UK. The satcaster also claims that its research shows that almost half of its new 2011 customers are people migrating away from Sky and its monthly subscription contracts.

10 Lean machines

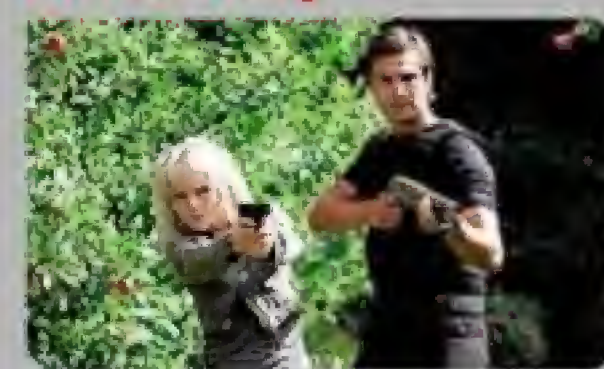
High-end specialist Bang & Olufsen has launched a limited edition version of its BeoVision 10-46 LED TV, with only 500 models being created. The Chanterelle BeoVision 10-46 boasts exclusive colouring 'inspired by Scandinavian interior design' and has been designed for what the company calls 'a new elegant placement possibility' - leaning up against a wall!



Premiere

HCC's guide to what's happening in the world of TV and films...

Extra scary



Canadian broadcaster Space has ordered an 'older, darker and scarier' spin-off from the ITV sci-fi series *Primeval*. Promising a 'younger, sexier cast and gorier special effects', the 13-part *Primeval: New World* builds on the show's existing mythology and follows the exploits of a Canadian team investigating the anomalies and the creatures that come through them.

Codemasters

ABC Studios is said to be developing a series based on Duncan Jones' sci-fi thriller *Source Code*. The show is reportedly based around a trio of former federal agents, who use 'source code' tech to jump into the consciousness of people involved in tragic accidents in an effort to find out what happened.

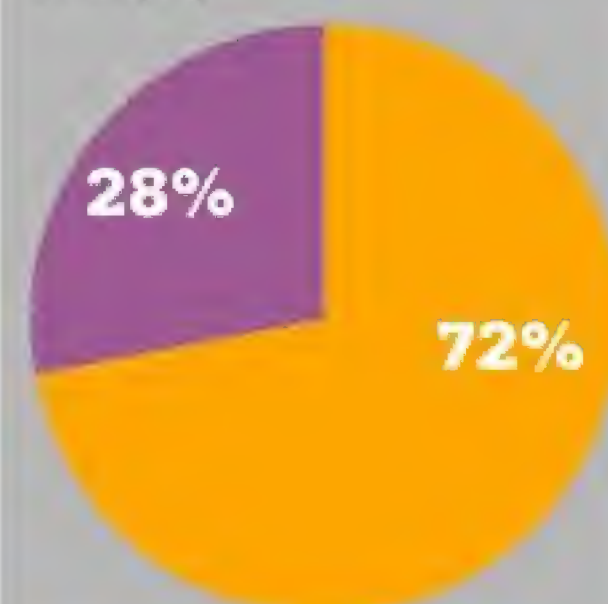
Show goes on

Andy Whitfield, the 39-year old British star of TV hit *Spartacus: Blood and Sand*, has died in September. Liam McIntyre has taken over as *Spartacus* in the upcoming second season.

We asked...

Which of the following was the more exciting 3D tech unveiled at this year's IFA expo?

● Toshiba's 'glasses-free' 3D TV
■ Sony's HMZ-T1 head-mounted 3D display



Results from www.homecinemachoice.com
Go online for more polling action

Looking ahead to 2012



A



B



C

Chris Jenkins rounds up the flurry of product launches from the IFA and CEDIA tech shows

If the main themes of Berlin's massive IFA show last year were 3D and Smart TV, then the themes of 2011 were... er, 3D and Smart TV again.

Technologically, nothing seems to have moved on much in the preceding year, perhaps because punters are still having a hard time coping with the impact of HD, let alone the Smart TV and 3D revolutions. After all, if you bought an HDTV or a projector just before 3D and Smart models hit the shops, you're probably not ready to upgrade.

So press conferences from the likes of Panasonic and Samsung had little news to impart of the home cinema market. New developments occurred mainly in the fields of portable tablet devices, and while these may be the home entertainment sources of the future, they're not yet at the stage where anyone will want to throw away their Blu-ray player or disc collection.

Other brands, though, used September's IFA and the US CEDIA show, a week later, to unveil new hardware that will get AV fiends salivating.

Dutch brand Philips' new Cinema 21:9 range Platinum and Gold models have enhanced 3D and Smart TV features, including 2D-3D conversion with adjustable 3D depth, Multiview to split the screen between TV and online functions, a two-player mode gaming with split screen, and a two-player mode with special polarised glasses so each player sees his own view full-size on the screen, simultaneously.

Interesting, but these are just tweaks. Thank goodness then for a couple of demos which promised greater things to come. Seeing Sharp's 85-inch Super Hi-Vision screen, with its 7,680 x 4,320 pixel resolution, 16 times that of HD, is like looking out of a window; which we might as well do for all the good it will do us, as we shouldn't expect to see this broadcast technology being tested until 2020.

Pushing the pixel count

Rather closer to launch is domestic 4K projector technology. Sony's VPL-VW1000ES (launched at CEDIA, but seen behind closed doors at IFA – see [page 9](#) for more) promises a resolution of 4,096 x 2,160, at an as-yet unannounced price – but expect it to way less than the cost of a theatrical 4K projector. Of course, there's no 4K resolution media to show yet, so Sony will be relying for the moment on the projector's upscaling technology; it will be interesting to see when a suitable format for 4K media will be announced.

At CEDIA, JVC also launched projectors claiming 4K2K capabilities, but with a difference approach. 4096x2160 SXRD-type chips, JVC's new DLA-X70R and DLA-X90R projectors use 1920x1080 versions of its D-ILA chips. Something called 'e-Shift' technology is then employed to upscale HD feeds to 3840x2160 resolutions before projecting them.

A Triple treat

LG's huge stand was almost totally devoted to 3D tech

B Berlin bound

The annual trek to the huge International Funkausstellung

C Luxury living

Samsung's 3D lifestyle theatre



This raises a burning question: what's the point of upscaling incoming HD sources to 4K2K levels when they're only going to have to be downscaled again to 1920x1080 for output through the D-ILA chipsets? Well, for one thing the argument goes that if you put more detail into a source via high-quality upscaling, you will end up with a more nuanced, crisper-looking image even when it's downscaled again for output. Also, the eShift system is claimed to show sub-frames and sub-pixels to give the impression of a 4K signal.

We'll need to see proof of this before we're entirely convinced, of course.

No glasses needed

We may see autostereoscopic 3D first, though, in the form of Toshiba's 55ZL2 TV. Though Toshiba has launched smaller autostereoscopic screens in Japan, the announcement at IFA of such a large screen so soon (it should be on sale in the UK in January 2012) came as a bit of a surprise.

Toshiba's autostereoscopic screens use lenticular filters over the display to create the 3D effect, so no glasses are needed. A multi-layer system creates nine separate 'sweet spots', so the 3D effect isn't limited to one viewing position, either, while the screen features head-tracking technology to adjust the 3D effect according to viewer movement.

As the TV features a resolution of 3840x2160, necessary to produce the effect in full HD, the result is that it also looks superb when showing 2D material, particularly digital still images (which can have a higher resolution than HD video).



D Show off

Toshiba's glasses-free 3D TV was an undoubted highlight of the IFA show

E The right angle

Loewe's portrait-oriented TV turned all heads... literally

F Mobile luxury

Sharp's wi-fi portable TV may be too indulgent for Brits

G Giant resolution

Sharp's 8K4K display gives a taste of the future

H Cinema widescreen

Philip's futuristic stand majored on 21:9 TV...

I Emblazoned

...While Samsung pushed its Smart TV message

The 55ZL2 also features WebPort cloud-based media functions, Toshiba Places apps, USB recording and personal TV settings. No price has been announced, but expect it to be very much a premium product; Toshiba will also continue to produce active shutter and passive 3D TVs.

It's a TV, but not as you know it

So is 4K the future, or 8K, or glasses-free 3D? Certainly they'll all play their part, but leave it to Loewe to come up with some concept products which may or may not feature in the next decade's 'must-have' lists.

The Loewe Pivot is a 21:9 format wide screen, which automatically positions itself horizontally or vertically, as needed. Serving as an information terminal or a home cinema system, it's uniquely flexible and can even be used as an art gallery.

The Loewe Module, on the other hand, is meant to focus on how young people use different media in parallel. It has a full-size screen for TV applications, but attached to it is a smaller monitor for multimedia work. Since studies show many young people use a computer while watching the TV, why not give them the means to do both in one unit?

The third design, Loewe Mirror, could be overlooked entirely because, when it's switched off, its reflective surface creates the illusion that there's nothing there. Once activated, though, you can use it as a conventional TV, a video appointments book, or as a piece of electronic art that will match your décor or creating swirling naturalistic patterns.



Epson shines a light from the east

Danny Philips gives us the skinny on Epson's new projectors from its production line in China



In the world of projectors, Epson reigns supreme. A leading light (pun intended) in the home cinema and business PJ markets for the last 25 years, it has been number one in global sales every year since 2001.

In 2011, things are looking particularly rosy for the Japanese brand. Game-changing market trends such as 3D, wireless connectivity and consumers' desire for bigger screen sizes are giving innovative Epson something to think about, according to Takanori Inaho, Epson's sales and marketing manager.

'The main reason we can keep the number one position is we have a developer spirit. We have launched a new product with unique features every year. We always think how to expand the market, how to meet customers' requirements. We do believe that kind of spirit allows us to keep the number one position in this segment.'

HCC was invited to a behind-the-scenes tour of Epson's factory in Shenzhen, China to get a sneak peek at its new products – long before they were announced at IFA in September – and find out a bit more about how these complex lightboxes are put together.

Among the new products unveiled to us were Epson's first 3D-capable projectors. With serious commitment from movie studios and the video games industry now being demonstrated, the

brand thinks the time is right to show the home cinema world what it can do.

Brighter 3D

Epson's first full HD 3D range boasts five 3LCD models, which the manufacturer claims deliver the brightest 3D images on the market thanks to their luminance enhancement technology.

At the top of the tree is the 9000 series, comprising the £2,650 EH-TW9000 and the £2,962 EH-TW9000W, the latter being the first on the market to offer WirelessHD connectivity, enabling you to beam signals from compatible HD sources without wires to conceal.

To produce those bright 3D images, these new models double the refresh rate from 240Hz to 480Hz, which dramatically reduces the 'blackout period' between the left and right eye images being displayed. This, says Epson, makes them brighter and more comfortable to watch, and results in a high white and colour light output of up to 2,400 lumens and contrast ratios up to 200,000:1.

And when Epson's engineers demo'd the new top-end units in a factory viewing room, that added brightness certainly shone through. Even through dimmed glasses, whites looked pristine and colour vibrancy was dazzling, yet blacks looked dense and detailed and the image had an ➤

Globetrotting: HCC was granted exclusive access to Epson's Chinese PJ plant



Production line: Epson's Shenzhen factory can output 8,000 projectors a day



World's first: Epson's MG-850HD is the only projector around with a built-in iPod dock – and good for party animals, apparently

unmistakable smoothness. How it fares in the harsher surroundings of the our test lab is yet to be seen, yet these early signs are impressive.

The 3D range is completed by two 6000 series models – the EH-TW6000 and WirelessHD-compatible EH-TW6000W – and the EH-TW5900, which at £1,350, £1,650 and £1,000 respectively will be among the most affordable 1080p 3D projectors around. A single pair of active shutter glasses is provided with the 6000 models, and two come with the 9000, but nothing ships with the 5900.

Joining them in the range is the MG-850HD, a curious new model that sails previously uncharted waters, becoming **the first PJ in the world with a built-in iPod dock**. Strange bedfellows they may be, given that projector speakers aren't renowned for their audiophile qualities, yet Epson has high hopes that this product will prove popular among party animals and teachers alike.

'Nowadays a lot of people have an iPod, iPhone or iPad and they want to share the information at a party, so that's why it's a good potential market,' says Inaho. 'On top of that, I got some feedback from schools who display text through their iPad. They said, "that's a good idea for the school" and that's why we decided to launch this product.'

As well as playing music through its 10W stereo speakers from the iPod/iPad/iPhone dock perched on the back, it can directly project movies and videos from your Apple device on a 300in screen. Its 720p resolution, 2,800 lumen brightness and 3,000:1 contrast ratio won't satisfy staunch cinephiles, but the picture looks fine for day-to-day viewing – even under the glare of Epson's factory boardroom lights.

Those on a tight budget might be more inclined to check out the EH-TW480, a £550, 720p model PJ aimed at gamers and sports fans with no designs on 3D, iPod docks or wireless connectivity.

Staggering output

These models, along with the 35 business projectors and three other home cinema models in this year's range, are built at the Epson Engineering (Shenzhen) Ltd (ESL) facility, the largest projector factory in the world.

The state-of-the-art facility began operating in 1985 and employs more than 12,000 people, roughly 5,000 of whom work on the projector side. They churn out a staggering 8,000 projectors every day, or 1.7 million a year – the largest production volume in the world.

Here, Epson manufactures everything in-house, including 3LCD panels, lamps, lenses and power supplies, and as the only manufacturer to produce its own lamps and panels it has the distinct advantage of being able to keep a closer check on the quality of every single component.

The 3LCD panels manufactured here use a high-resolution, three-colour projection system with three liquid crystal chips. Different wavelengths of red, green and blue combine to produce millions of colour shades, as well as white light – meaning that brightness is never sacrificed to produce colour images. It maintains the brightness using mirrors, which split the light into red, blue and green rays that are then re-combined and projected simultaneously, avoiding DLP's tendency for colour break up.

Our tour of the plant is an eye-opener. It's such a slick, organised operation that you can see how it reaches those production figures.

Orient express

Rows upon rows of work stations are crammed with trays of tiny components and tools. Workers dressed in blue dust suits with white caps to keep contamination at bay carefully fit parts to a chassis, check it and slide it to the next person in line. Even the intrusive waving of HCC's camera into their workspace didn't interrupt the focus.

These benches are surrounded by 'tents' equipped with projector screens, calibration equipment and humming computers running video testing software. Here, every projector is tested for two hours before it's dispatched.

At times there's a touch of Willy Wonka's chocolate factory about the place. Before HCC was allowed on the factory floor, we had to don a white jump suit, cap and slippers. At one point we stepped into a chamber and were blasted by air emanating from numerous holes in the wall, in order to blow away any dust that could settle in the delicate projector parts.

This attention to detail and care over the end product is probably one of many reasons why Epson still enjoys its lofty market position 22 years after launching its first 3LCD projector, the VP-100.

And looking forward, what can we expect to fly out of the factory's doors in the future? Well for starters, a lot more projectors – with the worldwide home projector market predicted to grow by 10 per cent each year and Epson targeting a €200million revenue increase, expect that production volume to keep on rising.

Number crunching aside, you can also expect Epson to continue upping the brightness of its projectors, making them even easier to use – and to start dabbling in 4K2K models at some point.

'Of course we are thinking of every possible technology, like 4K2K,' says Takanori Inaho, 'but as of today the content is very limited, so maybe it's not the right time to launch this kind of product. The timing is the issue.' ●

Waiting game: Sales and marketing manager Takanori Inaho says 'timing is the issue' for 4K projectors



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AirTies' Air 4420-TV is a revolutionary product which uses the latest in wireless tech to deliver flawless HD streaming around your network and connection to your TV's internet services at speeds of up to 300Mbps.

Featuring Auto Channel Selection and buffering technology to ensure a quality of media streaming not seen in competitive devices, the 4420-TV combines ease of set-up via its Airtouch one touch set-up with the ability to stream up to three HD video files at one time.

Setup is a simple three-step process: just connect one of the 4420-TVs to your existing router/gateway, connect the second to your 'net-enabled device, and push the buttons on both devices so they pair securely and automatically using WPA2 security protocol.

The 4420-TV has a host of other features which will enhance your connected home network. Transmitting selectively on either 2.4 or 5Ghz, not only can you stream HD video but you will benefit from improved performance on your wireless network – and further units can be added to the system at a

touch of the button via the Mesh technology functionality.

The 4420TV features a DNLA compliant media server to assist in streaming downloaded content and has uPnP product support to ensure compatibility with a wide range of devices as well as your 'net TV, including Xbox 360, PlayStation 3, Smart Blu-ray decks/set-top boxes and media players.

Each device even has a USB port which can act as a wireless print server for any USB connected printer or be used to connect any USB hard drive to share files.



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Lofty ambitions

Chris Jenkins climbs the stairs to this comfortable eyrie where soundproofing is king

When an avid film-watcher came to St Albans-based FAB AV with plans for a cinema room under his roof, it didn't look like the easiest of installs. Fitting in a 2.37:1 projector screen and seating for three people, and specifying as close to reference-level 7.1-channel sound as could be achieved, would be a challenge.

But with the help of an anamorphic lens, FAB AV managed to live up to his lofty ambitions...

The main concern was soundproofing, as the room is above the bedrooms in this semi-detached house. Ultimately, the quality of the sound isolation would determine how loud the system could be run once installed.

An eye on the future

Though the owner enjoys films of every genre, he didn't see any call for a dedicated video server, as he was counting on HD content being available to stream from internet suppliers in the future. That certainly helped keep the budget down, but there was no avoiding the necessity for a lot of building work.

→ Kit Checklist

JVC: X-9B projector

Stewart: 8.5ft screen

Klipsch: 3x KL650 THX LCR speakers;
2x KS7800 THX surround speakers;
2x KL7800 THX rear surround
speakers; 2x KW120 THX subwoofers;

KA 1000 THX subwoofer amplifier

Monitor Audio: 2x GSW12 subwoofers

Sherbourn: 7/200 power amplifier

Onkyo: PR-SC5077 audio controller

JVC: HD990 D-ILA projector

Panamorph: Anamorphic lens, sled
and mount

Screen Excellence: 100in wide acoustically
transparent fixed Reference screen
with 4K fabric

Oppo: BDP-83 Blu-ray player

Humax: FOXSAT HDR

Topfield: TF7700 HD satellite receiver

Performance: Media PC

RTI: XP-8 control processor; T3v
remote

Helvar: Digidim lighting control system

Middle Atlantic: 2x 24U equipment racks

Signature: 3x home cinema recliner
seats



The room uses a total
of four subwoofers –
two at either end



Much of the
cost of the
room came
from the
building
work

**Put to
good use:**
And to think
most of us
use our attics
to store
old VCRs...

Stud walls were constructed at the front and rear of the room, and isolated from the rest of the roof structure using 1cm thick isolation strips made from recycled car tyres. The walls and sloping ceiling were covered with two layers of 15mm plasterboard, sandwiching a layer of Green Glue, the wonder soundproofing material.

The floor comprised 22mm flooring chipboard, glued and screwed to the new floor joists. This was then covered with another layer of Green Glue, and an 18mm marine ply floating floor was laid on top to provide mechanical decoupling from the house structure. A gap of 10mm

was left around the room so any vibration on the floor would not transfer to the walls.

The front wall hides the chimney breast, and also houses three Klipsch KL-650-THX speakers behind an 100in Screen Excellence acoustically-transparent, fixed 2.37 format, projector screen. Surround duties are taken care of by two Klipsch KS-7800-THX speakers mounted in the sloped ceiling, adjacent to the three seats. Two further Klipsch KL-7800-THX speakers have been mounted in the rear wall on either side of the door.

There are two Klipsch KW120-THX subwoofers at the 25 per cent

marks on the front wall, and two Monitor Audio GSW 12 subwoofers at the 25 per cent marks on the back wall. All speakers and seats are carefully positioned to meet industry standards.

Audio is delivered via an Onkyo SC-5507 processor, working in tandem with a Sherbourn 7/200 power amplifier. The system has been optimised for the environment by carrying out a HAA (Home Acoustic Alliance) sound calibration.

As for pictures, the JVC HD990 D-ILA projector and Panamorph anamorphic lens are suspended from the ceiling. Since the projector had to be located inside the room, the JVC

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was chosen for its low noise performance – as well as its HD flair.

The whole system is controlled by an RTI XP-8 processor and RTI T-3v touchscreen remote, and lighting is part of the whole-house system also installed by FAB AV. As a source is selected, the projector and amplification turn on and the lights dim.

Two 24U equipment racks house all the electronics in an actively cooled cupboard constructed in the eaves. A thermostat behind the equipment turns on an extractor fan when the environment reaches 25°C. The main cinema room also has a wall-mounted air conditioning unit installed above the screen, but sprayed Satin black to blend in with the environment.

The wall behind the screen is covered in an acoustically-transparent black cloth to improve the perceived contrast of the picture.

The lucky owner has a choice of video sources, including an Oppo BDP-83 Blu-ray player, Humax FOXSAT HDR, a Topfield HD satellite box and a media PC.

Wow factor

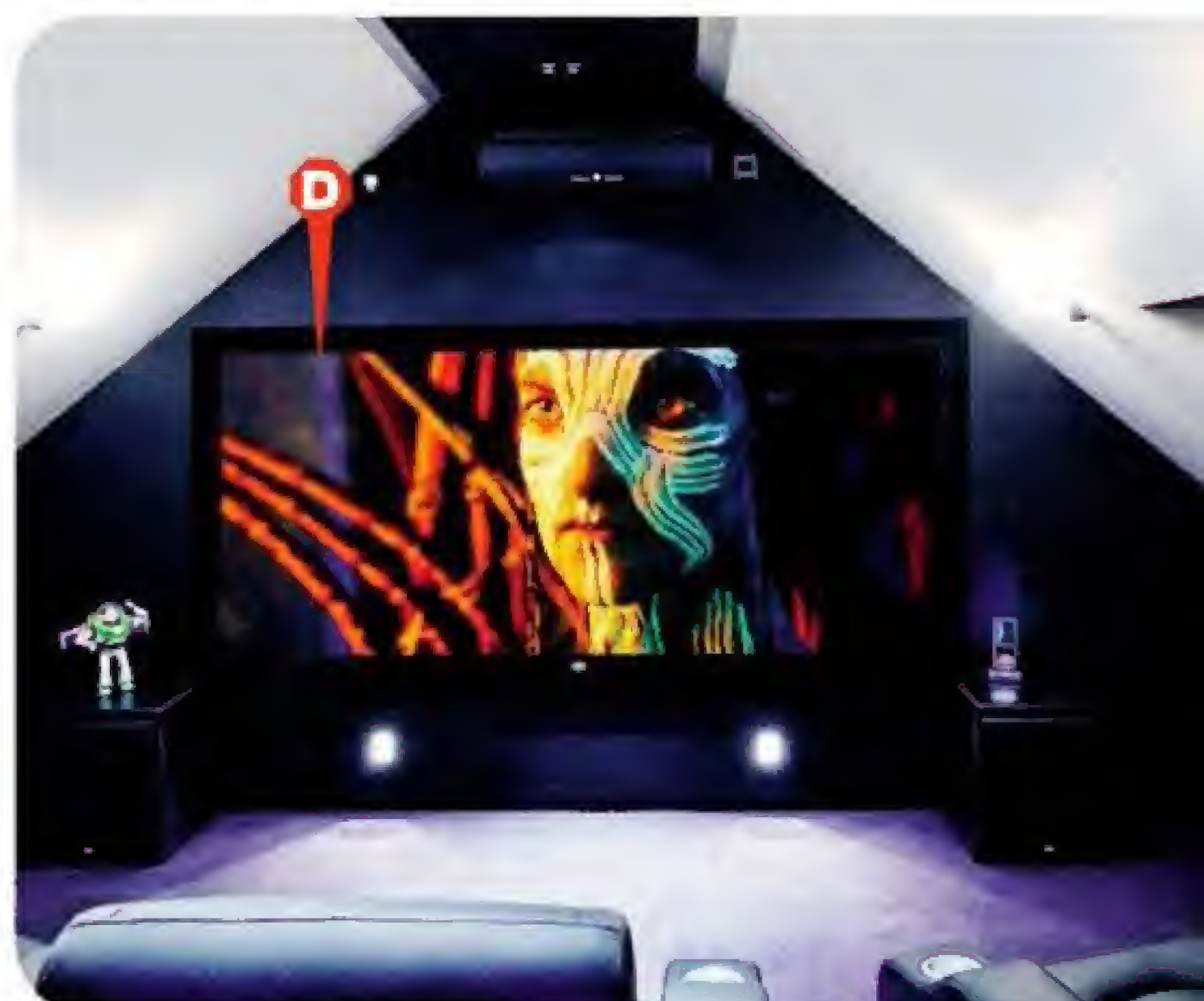
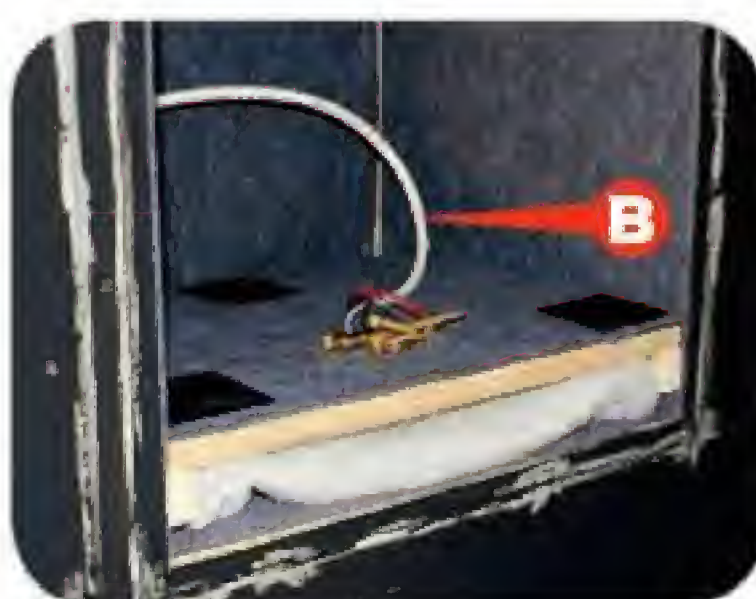
On final calibration, the room had achieved the owner's desires, with a level of 109dB being delivered to the centre seat.

'I had always wanted to dedicate the loft space to a home cinema of some type,' he says, 'but always had major doubts about how far we could really go because of soundproofing issues. I raised my doubts at the planning stage, and was assured this could be dealt with.'

'Now it's finished all I can say is: wow! I can sit in the cinema with sound turned right up and you can only just hear a faint rumble in the bedroom directly below. The neighbours are still speaking to me, and assure me they are not inconvenienced, even at full volume!'

He's also impressed by how the technology has fused together: 'Everything "fits" perfectly and works exactly as it should. The image quality is superb and the sound is flawless. The amount of science behind many of the decisions, such as the choice of certain construction materials, was eye-opening.'

'However, I have had my questions answered and a range of options or solutions presented to me clearly at every stage. I couldn't be happier with the finished room and now spend as much of my time in there as possible. In fact, I have a hard time leaving!' ●



Room essentials

A Getting comfy

Available in three standard colours and five to special order, the Signature recliners are modular and interlocking

B Padding up

The speakers housings were fitted with isolation pads so they could be run loud without break-through into the bedrooms below

C Super glue

Green Glue is not glue, though it is green. FAB AV got through 60 tubes of the visco-elastic damping compound on this job

D Room with a view

A JVC HD990 projector provides the bigscreen visuals

E Big stud

The stud walls constructed at the front and rear of the room were isolated from the rest of the roof structure using 10mm thick isolation strips made from recycled car tyres

Serious Home Cinema



demands some Serious AV Separates



Pioneer
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Every issue, an **HCC reader** invites you to take a tour of their beloved home cinema setup...



General Zod:
Our AV-holic shares his name with a Hollywood actor, so we've made a weak joke

Introduced yourself...

Terence Stamp, aged 37.
What's your occupation?
Stay-at-home Dad. My wife works while I spend time with the kids and play with the system.

Would you consider yourself an AV addict?

Definitely! I have been into hi-fi and home theatre for as long as I can remember. I have built my own in-wall speakers with Dynaudio Esotar tweeters and Dynaudio drivers.

What's in your setup?

For the speakers, I have the in-wall Dynaudios that I designed and built myself for the fronts, and Monitor Audio GS60s for the rears – but I'm looking to put them on rear surround duty and get some MA GX300s. Two Focal 18in subwoofers handle the bass. The rest of the system consists of a Denon DBP-4010UD

Blu-ray player, Denon AVR-4311 (used as a processor), Rotel power amps and an InFocus IN76 projector.

For hi-fi duties I have a Pro-ject RPM10 turntable and Tube Box SE2 valve pre-amp.

What was the last bit of kit you bought?

I have a Monitor Audio GXC350 centre speaker on order and a reel of Van Den Hul The Magnum – 50 metres! – also on order to upgrade all of my speaker cable.

How much have you spent on your AV habit over the years?

Hard to tell, as I have built up, sold off and upgraded many times over the years. More than I probably should have.

What does your family think of your hobby?

My wife loves the theatre and she has contributed to it over the years. She likes putting on a good action flick and sitting near

to the 18in subwoofer to get maximum bass! The kids also like sitting down to watch a movie and having their friends over to show off.

What's your current fave BD?

Good action or Sci-Fi movies that have had some time spent on the soundtrack.

Are you excited about 3D?

No. 3D gives my wife headaches so she won't allow me to invest in it until it gets to a stage where the glasses don't flicker! ●

Join the club

Do you want to see your home cinema system featured in the pages of *Home Cinema Choice*? If so, log on to www.homecinemachoice.com/avholic where you'll find all the information you need.





Room essentials

A Ready for action

This dedicated cinema room uses a fixed-frame projector screen and an InFocus IN76 to supply HD visuals

B Reference-grade Blu-ray

Denon's DBP-4010UD is a universal disc-spinner that garnered a five-star review in HCC when it first appeared in 2010. It won't play 3D discs, but our AV-holic doesn't mind

C Time for a change

The Monitor Audio GS60 surround speakers are soon to be replaced by the same brand's GX300 models

D Focal point

The room uses two of these massive 18in subwoofers from Focal for a trouser-flapping low-end performance

E Home cinema handyman

Terence built and fitted the front speakers himself

PLATINUM M

finest
masterpiece



HI-FI WORLD

"Real fidelity at an affordable price" - 5/5
PLATINUM M4

HOME CINEMA
BEST BUY

"Absolutely fantastic"
CHROMIUM STYLE 5.1

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WIREIMAGE
EDITOR'S CHOICE

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"Sweet and smooth"
4.5/5 - ALTAN VIII

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quadral 
HiFi / Surround Speakers

Room with

Part 1

Real men build their own home cinema. **Chris Jenkins** shows you how to tackle the DIY challenge

→ DIY Kit Checklist

Speakers: Velodyne SC-IW SubContractor in-wall subwoofer, £1250
 SC-BB: backbox, £220
 SC-1250: power amp, £1350
www.red-line.co.uk
 tel: 01268 858 222

Definitive Technology Reference Series:
 UIW RLS11 L/C/R speakers, £799 per speaker
Reference series: UIW RSS11 Surround speakers, £549 per speaker
www.pulsemarketing.org
 tel: 01279 647 039

Cables:
 Ixos XHS523: speaker cable, £4.99 p/metre
 HDMI: 15m, £220
Custom lengths to order: VGA 15m @ £35 p/3m
 S-Video: 15m @ £34.99 p/5m
 Component: 15m @ £79.99 p/5m
 Composite: 15m @ £39.99 p/3m
www.ixos.co.uk
 tel: 01844 219 000

Screen: Screen Research THX Acoustic Transparent in-ceiling trapdoor screen (product code MS-IT-110-178-2W-B): inc motor controller, £Enquire
www.pulsemarketing.org
 tel: 01279 647 039

Lighting: Niko Home Automation & Lighting Systems
www.usd.uk.com
 Tel: 01525 877707

Building materials: Gyproc Soundbloc 12.5mm 2400mm x 1200mm, approx £10 per board
www.insulationexpress.co.uk

Green Glue: Around £13 per tube
www.green glue.co.uk
 tel: 01303 230944



Our DIY project turned an average room into a movie palace

a view

If you're serious about home cinema, you will never be happy with just a living room equipped with a TV and a Blu-ray player, no matter how high quality. The ultimate aim of any home cinema enthusiast must be to own a dedicated media room, designed and built to emulate the theatrical experience. You can pay the professionals thousands of pounds to do the work for you, or you can do it yourself!

Of course, we don't deny that the wonderful design, building and engineering work done by the pros is a bit beyond most of us. But by learning some simple principles of design, construction and calibration, you can achieve marvellous results yourself. All it needs is a room, a budget, plenty of time and some elbow grease.

Our example project is a living room in a typical Thirties semi, but your space may be a garage, basement, loft or even an outbuilding. The principles are the same and the results can be just as stunning.

Know your own skill levels

Most of the skills you need to build your own home cinema room are no more demanding than those of putting up shelves, hanging a door or boarding out a loft. But needless to say, you will need basic DIY knowledge and tool-handling skills. If you can't face the prospect of drilling walls, sawing timber, lifting floor-boards or soldering connections, you won't be able to do the work alone. The trick is to know your own limitations and call in the professionals when needed; that way, you'll keep the budget down and keep control of your own project.

So what are the differences between a typical living room home cinema system and a dedicated room? If you think of your favourite cinema, it boils down to these main elements:

Stealth: Apart from the display, most of the system elements are hidden. The display is typically wall-mounted rather than stand-mounted, the speakers may be hidden behind the screen or in-wall, and the source devices are hidden in cabinets (or even outside the room). Cabling is, of course, invisible.

Scale: The screen is larger than you would expect in a standard living room: either a large

widescreen TV, or a front-projection system, possibly both if the projection screen is a roll-up type.

Lighting: Lighting is controllable so the room can be darkened for viewing.

Seating: Seating is arranged so viewers are at the 'sweet spot' of the surround-sound system.

Control: System control is simplified by incorporating the plethora of remote controls into one handset. Lighting and other systems may also be incorporated into the control system.

Acoustics: The room is acoustically treated to reduce sound interference from outside, limit leakage from the room, and eliminate phenomena such as 'standing waves', which might reduce sound performance

Calibration: The system is calibrated so it reaches the optimum levels for picture and sound performance, in line with industry standards

Not all of these ideals will be achievable in every room, but over the next few issues we will show you how practical DIY skills will take you well on the way to managing most of them.

Trade tip: Green Glue was one of the professional secrets used to deaden the room's sound response



Both the large fireplace and the bay window had to be taken into account when planning the room



Fitting both a large plasma TV and a roll-down projector screen required some precise engineering



Velodyne's subwoofers were chosen as they are ideal for boxing into walls



Top Tip

Why two subwoofers?

Using two subwoofers in a system significantly increases the sound pressure level in the room, and can help to reduce the localisation of bass effects caused by reflections or wave cancellation. LFE (low frequency energy) sound is non-directional – its wavelengths are so long that the ear can't distinguish directional information from it. So in most cases, it doesn't matter where you position a subwoofer in a room, and it can usually be tucked out of sight behind or under furniture. Be careful, though, about placing a sub in the corner of a room, as reflected wavelengths may cause sound cancellation. For a typical subwoofer frequency of 80Hz, the wavelength is 4.25m; it's recommended that you place the driver of the subwoofer no more than 1/8 of this distance from the wall, that is, 53cm away.

Step 1: Position conditions

Our room is pretty close to the average UK living room size of 16x16 feet. It features a large fireplace and bay windows, both of which were destined to cause trouble!

Our first task was to determine the position for the equipment. There wasn't much choice in the matter; the wall facing the window was the most suitable space for the screen, so the seating would have to be in the window bay. Having decided on concealed in-wall and in-ceiling speakers, the alcoves either side of the fireplace would have to be pressed into service to conceal the dual subwoofers. The fireplace itself would have to come out, and the space be bricked up, then the alcoves battened out to provide a flush wall.

Step 2: Ceiling feeling

At an early stage of your project, you will have to make some decisions about where to lay your cabling. It doesn't much matter what route your cables take from source to display or speakers, so long as you don't damage them by pulling them through walls or conduits, stapling them to battens, bending them around corners or resting them on abrasive edges.

In this case, we opted to run the AV and speaker cables through a false ceiling, rather than take the alternative route of lifting floorboards.

The other argument for a false ceiling was that it gave us somewhere to install recessed lighting and a trapdoor projection screen, along with four surround speakers.

We didn't take the option of angling the ceiling, though this can have benefits – see the Top Tips box opposite.



We opted to run the AV and speaker cables through the false ceiling – an easier route than lifting floorboards

Step 3: Subs and doms

The relatively small size of the room dictated that the speakers should be boxed into the walls, and Velodyne's SC-IW is ideal for this purpose. A slim-line, two-box solution, which fires vertically courtesy of a T-shaped driver design, the sub ports out into the room, via either a 14in grille or much smaller 5in letterbox. We added the SC-BB backbox from Velodyne's SubContractor series, designed to minimise vibration, essential with such powerful subs.

As they are passive designs, both Velodyne subwoofers would run from a single outboard amplifier, the Velodyne SC-1250, which has 1250W of output.

The wooden battens we had fitted formed a frame for the two enclosures; the top enclosure back-box sits flush with the wood-work, while the lower driver module sits proud, so the plasterboard has to be cut around it before the grille is attached.



A false wall had to be constructed to accommodate the front left-centre-right speakers



Your network cabinet doesn't need to be in your cinema, so we used a convenient boot room

Step 4: Full frontal

Having opted for in-wall Left-Centre-Right speakers, we had to build a false wall to accommodate these and the screen. Definitive Technology's Reference UIW RLS 11 in-walls offered the rich, articulate audio we wanted. With their aluminium dome tweeters and high-performance drivers, they are ideal for both music and movie applications.

Step 5: Server station

Of course, any modern home cinema installation has to be networkable. Whether immediately or in the future, it has to be possible to connect media players, NAS drives, PCs and other DLNA-compatible devices to the entertainment system.

Our plan was to create a server rig in a boot room. This was connected by CAT5 cable into the home cinema. We figured out that this network could also be used for lighting control. The lighting system we chose, from Niko, has some marvellous options including invisible light switches, which are activated by proximity and Ethernet ports that can be matched to your wall colour.

Step 6: Again with the cables

We settled on IXOS cabling for the majority of our installation, as it offers a good balance between cost and performance.

For speaker cabling, we went with IXOS' XHS523 Parallel Geometry low-resistance silver

speaker cable. A 100m drum proved plenty for the job, with some left over for emergencies.

The IXOS interconnects including a pair of 15m HDMI leads, VGA, S-video, component, composite and a 3.5mm lead to provide a 12V trigger were laid across the ceiling beams, linking the position of the ceiling-mounted projector to the electronics positioned under the screen.

The ceiling cabling was all checked for signal integrity before going ahead. The last thing you want to have to do is to tear down a ceiling after it's been plastered ●



A wide range of IXOS cabling covered everything from speaker connects to HDMI, component and VGA

Top Tip

Angle of dangle

The curse of many audio systems is the 'standing wave'. This is the phenomenon by which two audio waves travelling in opposite directions cancel each other out. In a home cinema, sound reflected from the floor, walls or ceiling can cause cancellation when it meets the signal from the speakers. The dimensions of the room will dictate the frequency of possible standing waves, which could cause a 'hole' in the room's frequency response.

If you can't change the dimensions of the room, one solution is to disturb standing-wave formation with physical obstructions such as furniture, bookcases, etc. or via absorbing objects (tube traps, etc)

Engineering a subtle slope in the ceiling can reduce flutter echoes in the mid-to-high frequencies. We've done this in HCC's in-house demo room, but in the current installation, we decided to forego it for the sake of domestic harmony.

Next issue: Why you should measure the height of your ceiling before trying to install your projection screen; how plasterboard can save you the expense of soundproofing, and much more!

THE THREE GOLDEN ROOM RATIOS...

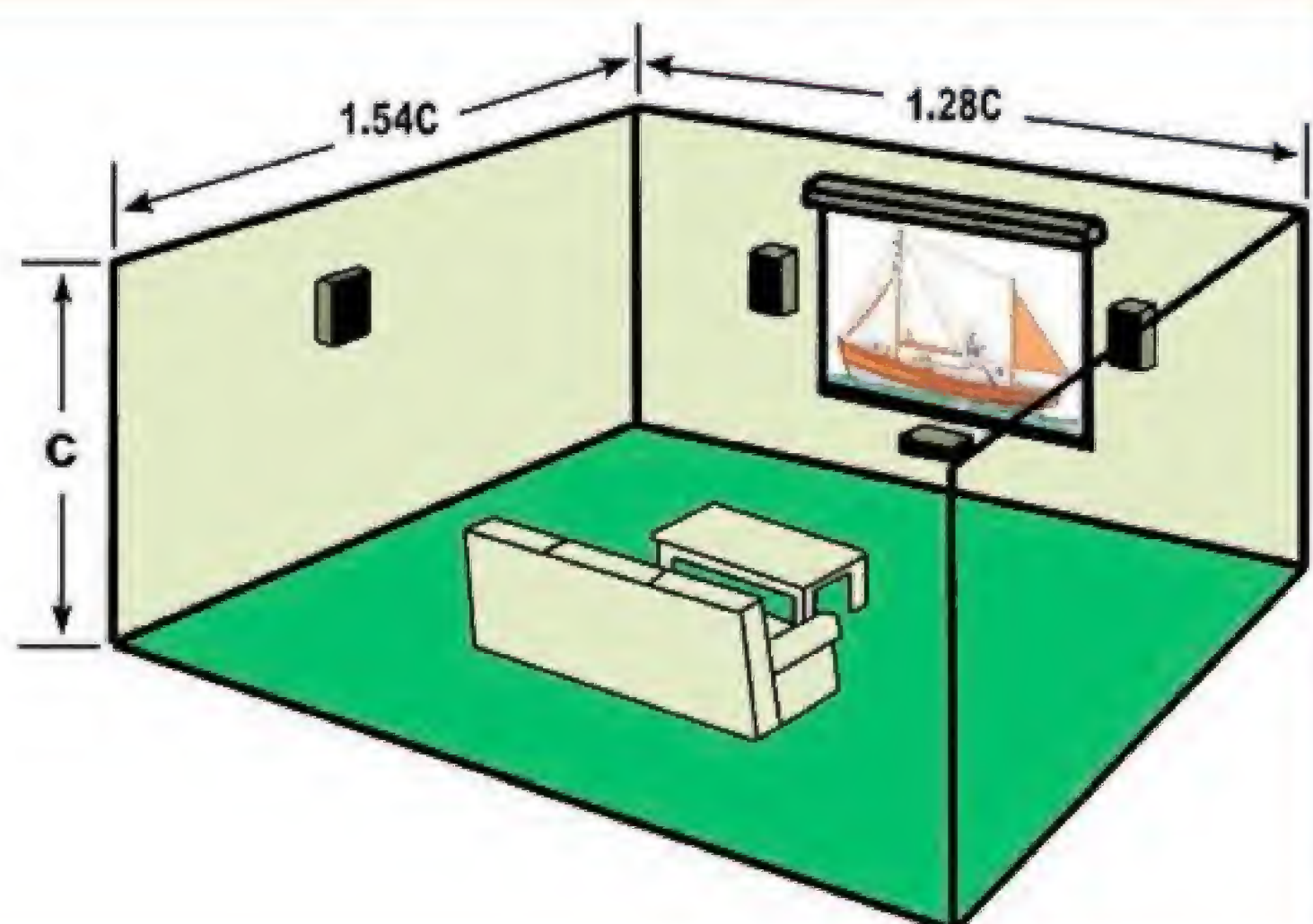
Sepmeyer and Louden

If you have the luxury of specifying the size of your cinema room, there are 'golden ratios' of height, width and depth which can spread out high and low pressure areas to obtain an optimum sound field. Researchers Sepmeyer and Louden developed these ideas in the 1960s, and their three suggested types are still used as the basis of many cinema rooms.

Choosing a type

Whether you choose Type A, B or C, it's simple to calculate the ideal width and depth for the room once you have the height; and this of course can be controlled by installing a false ceiling. The diagram shows a Type B room.

Type	Ceiling Height	Room width	Room length
A	C	1.14xC	1.39xC
B	C	1.28xC	1.54xC
C	C	1.60xC	2.33xC



AV Clinic



Is your sub-bass boomy, your picture peculiar or your cabling concerning? Write to **HCC** with your home cinema problems, and our team of experts will suggest the solution!

Voice Advice

I'm in the process of having a small studio built for voice-over work. I was looking over your article at http://hcc.techradar.com/sound_sense/soundproofing+tips, and I was wondering if you might be able to answer some questions?

The studio is about 7' x 7', then there's a machine room that is 5' x 5' next to it. I have air conditioning in the machine room, and a fan/vent that goes from the machine room to the studio to help cool the studio. When the fan is on, it pushes the air from the machine room into the studio... and along with it carries a bit of noise. In your article you mention 'acoustic louvers' and 'damping rubber sheets' that might help.

Can you please tell me a bit more about what these are and where I might find them (website links, etc.)?

Dave DeAndrea via email

We asked Matthew Moule of acoustic treatment specialist RPG Europe (www.rpg-europe.co.uk) to remind us of some of the basics of soundproofing and to expand a bit on Dave's queries. Here's what he told us:

One of the most commonly held misconceptions I encounter in my day-to-day work is that room treatments are somehow the same as soundproofing, ie. that putting some nice foam panels on the wall will stop the sound from leaving the room, or that putting bass traps in the room will stop LFE from leaking out to bother the neighbours.

Unfortunately, this just isn't



the case. Sound treatments and soundproofing are two separate areas of acoustics.

Soundproofing is what we do when we want to stop noise from leaving a room and bothering other folk in the house. When properly soundproofed, there is very little noise to be heard outside the room when the volume level inside is high, and conversely little noise from outside will penetrate the cinema room.

Ventilation can present great difficulties. Aircon running from room to room can transmit the sound in and out via the ducting.

In Dave's case, the plant room noise is being carried into the studio through the



ventilation system. An acoustic louvre is a baffle of sorts, designed to help stop some of that noise passing through into the system and into adjoining rooms. It's mounted at the intake of the system and at the room end. You can see some examples at: www.vents.co.uk/acoustic.asp;

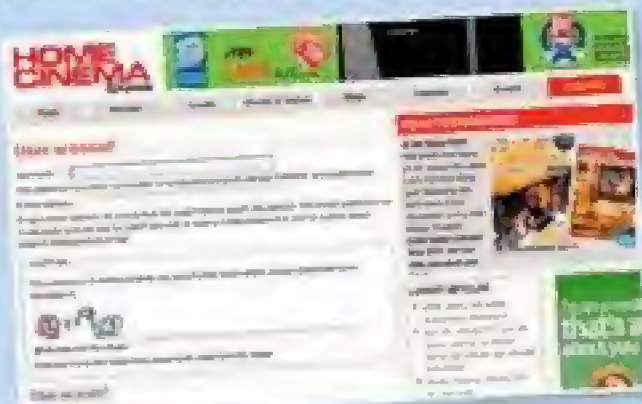
Air conditioning: This can limit the effect of your soundproofing – but there are fixes

www.soundservice.co.uk/acoustic_vents.html; and www.wakefieldacoustics.co.uk/our-products/acoustic-louvres

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Don't be an Alan Smithee! Joining *Home Cinema Choice's* online community is free, fast and fun

On the home page of www.homecinemachoice.com, scroll down the right-hand side of the page until you see the Login box. Click the *Join Here* button, choose a username and then create your profile. You can upload an image to represent you online and use your signature to tell fellow AV fans about your own system automatically every time you post. Joining the big AV debate online has never been easier!



Lining the ducts with acoustic materials such as duct foam can help to reduce noise carried through the duct, while damping sheets, which are heavy rubber-type materials, help to stop the ducting from resonating. Inline baffles can also be used as part of the overall system to reduce noise. You can find out more about attenuators here: www.tekintonat.co.uk/intonat-attenuators.asp

For home cinema building projects, soundproofing is only high on the agenda if you want to keep your neighbours on side. If you are planning on soundproofing a room then there are many elements of sound transmission that need to be taken into account, but the most basic one is that doors need to be solid (as in heavy!) and need to seal tightly when shut. But we'll come back to the subject in our DIY Home Cinema series in the near future.

Soundcard woes

I'm having a problem using my multichannel amplifier with the soundcard on my PC. The amp won't allow 5.1 (optical) sound via the onboard soundcard, it works fine when running a test on each speaker/channel, but films and games only play through 2.0 channels. The amp is a Yamaha RX-V361, the PC is running Windows 7 Pro 64-bit, and the speaker system is a Panasonic 1000W 5.1 with tallboy speakers.

Sherv, via e-mail

It's very difficult to diagnose the problem without detailed information on your soundcard and drivers, but basically the problem is this: Windows 7. Lots of people have been having problems with multichannel output from Windows 7-based PCs. While the problems will probably be solved by incremental updates to the software and drivers, you may, with some fiddling around, be able to resolve the problem yourself. Some Realtek soundcards, for instance, show evidence of the problems you are having; one forum member reports: 'In my Windows 7 beta I cannot get the 5.1 surround sound to work properly. I have an integrated Realtek D chip (which works perfectly fine in Vista). The 5.1 sound works well when testing the sound in the Windows sound settings, but whenever I try some other playback (Windows Media Player or whatever), only the front left speaker works. I have also

attempted to install the latest drivers from Realtek (5.1 works in their sound control app as well), some older drivers and of course the standard windows driver, all with the same results.'

Other users report that their soundcards work fine under Windows XP, but not Vista or Windows 7.

While Windows hardware problems are often resolved by downloading new drivers for the relevant device, this doesn't always seem to work for 5.1 sound. In some cases it seems that the soundcard manufacturers haven't caught up, in others it appears that they have, but Windows 7 doesn't support the new drivers. You may have an option to revert to an earlier driver, in which case go to Device Manager, select the sound card, select the Properties menu, click on the Driver tab, and you should have the option to 'Roll back driver'.

For one forum user, the solution seems to lie in the Windows sound control panel applet. Windows chooses the soundcard's SPDIF output as

default, which results in only one front channel working. Setting 'Speakers' as the default playback device solves the problem.

For another user, selecting Dolby ProLogic IIX as the speaker output option solved the problem, and for another, it was disabling the Centre, Sub and Rear Pair options in the Realtek control panel.

If you are using a Realtek soundcard, you should also try altering the Speaker Full and Bass Management options on the control applet. These, together with the Room Correction options, might just make all the difference to the sound output.

If your card isn't a Realtek, the same principles might still apply; so if a driver update doesn't help, just try various options in the sound control applet and with any luck you'll soon be enjoying full 5.1! ●

Write to AV Clinic, Home Cinema Choice, Future Publishing, 2 Balcombe Street, London NW1 6NW, or email us at hcc@futurenet.co.uk. Due to the volume of letters we receive we cannot guarantee to print/answer them all.



PC problem: Thanks to a combination of soundcards, drivers and Windows 7, it seems routing 5.1 sound from your home computer to your AVR isn't always plain sailing

Producer Bryan Singer tells **HCC** about the latest instalment in the X-Men franchise, shooting movies in 3D and why he's not afraid to play around with comic book mythology

The **MAN** behind the

X-Men First Class arrives on Blu-ray soon. Was there any discussion about filming it in 3D?

When I first conceived the movie it was before the 3D craze. Suddenly now everything is in 3D, but it never felt like this needed to be in that format. *Jack The Giant Killer*, which I'm directing now, does lend itself to the 3D format more. It's a fantasy film and the pace is a little bit slower, whereas when you get into all that frenetic movement it changes the way you shoot. There would have been no physical way to pull it off and I never felt it was necessary and nor did Matthew [Vaughan, director]. We were never like, 'Damn, I wish we could be doing this in 3D'. How you shoot does change somewhat when you're shooting in 3D, I've discovered.

Why did you decide not to direct it yourself?

I was already committed to doing *Jack The Giant Killer* and I also saw this as an opportunity to produce something. My company [Bad Hat Harry] has done a number of things, but nothing this big. It was such a great opportunity to make this the first big studio picture from Bad Hat Harry and from me as a producer. I thought if I could find the right filmmaker who understood what I wanted out of it and who had reverence for the first two

X-Men pictures, which Matthew had – he was very much keyed off those movies and we got along. I realised it could be a really fun experience to see ideas I had come to life – without me having to sit there every day on the set going 'Aaargh', which can often be the experience on an aggressive schedule like the one Matthew had making an X-Men film.

Were you in any way a co-director of the film?

No, not at all. It's his movie. I wrote the story and I worked with writers to develop it, I brought Matthew in, I worked with him through the casting process and design ideas, but then I was very pleased with the rewrites he and Jane [Goldman] were doing. As a director I am not going to hover over another director; that's not the way I would want to be produced. I help in any way I can, then in post-production I give my notes and he honoured as many as he could or wanted to.

Was the cast all your first choices?

Pretty much, yeah. There were a few people we looked at before we knew other people were available; then suddenly people we really liked were available and we got them. I had to fight for Michael [Fassbender] because he >



MEN



Get the X Factor

Don't own the other *X-Men* movies on BD? Here's what you're missing out on...



X-Men

Bryan Singer's first big Hollywood job in Summer 2000 proved that the comic book genre hadn't been

entirely destroyed by *Batman and Robin* – and made a star out of leading man Hugh Jackman. Sleek and slick, but somewhat lacking in spectacular mutant mayhem.

Rating: XXX



X-Men 2

For the franchise return in 2003 Singer delivered what X-fans were crying out for – an action-packed thrill-ride that

made full use of its ensemble cast and VFX budget. The BD release, particularly the opening sequence, has become a staple demo disc in HCC's viewing room.

Rating: XXXXX



X-Men: The Last Stand

Good things happen in threes, so the saying goes. Unfortunately, that doesn't apply here – this

third instalment from 2006 ends the original trilogy in a flat and disappointing style – something fans attribute to Brett 'Rush Hour' Ratner behind the camera and Vinnie Jones in front of it.

Rating: X



X-Men Origins: Wolverine

The first ...*Origins* spin-off cut a dash in cinemas in 2009,

focusing on Jackman's adamantium-clawed anti-hero and his historical japes. Not quite the return to form many were hoping for, especially as the SFX looked like they'd been done on Deluxe Paint on an Amiga.

Rating: XX

wasn't as established as James [McAvoy], but I just said 'this guy is it'. That was the one time where Matthew said, 'I need your help to get this done', because we both saw his audition tape and agreed that he was the guy.

Is it true you didn't want James and Michael to study Patrick Stewart and Ian McKellen's performances in the other films?

Yes, that's true. This was a time when they were different people, they were different characters. This was a time when Erik/Magneto was a very angry, vengeful victim of the Holocaust, but also had enormous charisma and sex appeal. And it was a time when Professor X was much more naïve and idealistic and young, a time when they were romantic, a time when they hadn't yet hardened into the characters. So the last thing we wanted them to do was sound like Ian McKellen and Patrick Stewart.



X-Appeal: Even in the Sixties these cats had style

The mutants are a very diverse bunch....

It's a little like the bridge of the *Starship Enterprise*. We were very conscious this would be a much more international X-Men picture set during the Cuban Missile Crisis. You've got Russia, the United States, the CIA, all that stuff. Plus there's always a desire to show that the mutant phenomenon is a global one and the X-Men have always been multinational. There's always been a lot of great stories involving mutants from other countries.

Were you already fascinated by the Cuban Missile Crisis?

Somewhat. The fact we were on the brink of nuclear war and guys like General Curtis LeMay would have nuked Cuba in a second; the fact Castro said he would have advocated an exchange of fire even at the cost of his entire island; the very emotional fax Krushchev sent over that night... it was quite a gripping time. There were no cameras around, there was no internet and no embedded journalists – we don't know exactly what happened in the ocean at that time. I thought, 'What a great staging area for some big mutant thing that happened, but we may not have known about'.

Did you have any worries about playing with the comic book mythology?

No. Just as a writer who gets tasked to write a new X-Men comic wants to bring their own ideas to it, as a moviemaker it's the same thing. You're making a movie based on these characters and you want to make sure you capture their essence, but you can't be a slave to the timelines. You try to use logic. I was able to bring Mystique and Beast into this movie because they look so different they could be old souls in the other movies.

How do you feel the Blu-ray format benefits a film like X-Men: First Class?

It's the best way to see a movie at home as it would look in the theatre. For the visual effects that are all perfect then Blu-ray is great, but the ones that maybe got done at the last minute, er...

But this is more than a special effects movie...

I'm most proud of the fact that while a lot of these movies descend into visual effects mayhem, even though the effects do ratchet up at the end of this one so does the story and the emotion. In that way it felt very much like *X-Men 2* to me.

As a director and a producer, how do you feel about the fact films aren't just watched in cinemas? Thanks to advances like Triple-Play they're watched at home on Blu-ray, DVD, laptops, iPads, phones...

My favourite movies I discovered sitting in a little, dorm room at the YMCA watching very low-quality VHS tapes on a tiny TV. I re-watched *Jaws* and discovered Scorsese films like *Taxi Driver*, and the stories and characters were so compelling I didn't mind it. I remember seeing *American Beauty* with Kevin Spacey at the premiere in Toronto on a big screen and all that and I was like 'Wow, this is really good', but it wasn't until I watched it again on an airplane that I ended up in tears. But now people are seeing films in much better quality at home, with giant flatscreens and all that.

We assume you have an awesome setup...

I just bought the house next to mine and am building a home theatre in it – and a very sophisticated one. It won't be done for a few months yet.

How do you feel about criticisms of X-Men: The Last Stand and X-Men Origins: Wolverine?

It's hard for me because I'm very sensitive to the fact those movies were made under certain circumstances that didn't afford the directors all the protection and control that maybe Matthew had on this movie and I had on the first two. There was a certain tone that may not have translated and it may have been because of those limitations. When Brett [Ratner] came on to *The Last Stand*, he was already attached to a script and pre-visualisation that had already been done. The movie was half-made. When I make a movie, I start from scratch; if I want to use something someone else developed that's fine, but I don't have to. But Brett had so little time and he was under such parameters. With *Wolverine* I believe there was a certain tone, but then it got kind of changed a bit, but if I'm not involved it's hard for me to speak about it and if I am involved it's hard for me to be objective.

Finally, what's it like watching the Superman franchise carrying on without you?

My movie made a good deal of money, but I think in the end it was a bit long and a bit nostalgic for a summer audience. It would have been weird a couple of years ago for me to see another film being made, but now it's fine. I'm so distant from it, I feel happy to be back with X-Men. Henry Cavill is a friend and he was my second choice for Superman, so seeing him play the role is exciting and Zack [Snyder, director] is so talented.

TURN TO p86 FOR OUR IN-DEPTH REVIEW OF X-MEN: FIRST CLASS

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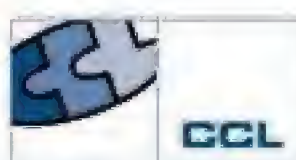
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SCAN

REVIEWS

→ **Hardware highlights** SONY Mid-range 3D projector, 40in LED TV and all-in-one home cinema system JAMO Affordable floorstanding array TOSHIBA 47in passive 3D LED TV ACOUSTIC ENERGY Compact 6.1 speaker package VELODYNE Smallscale, powerful subwoofer NAD Modular T 757 AVR **ROUNDUP** Four Freeview+ PVRs go head-to-head **AND MORE!**

Return to slender

Marantz throws away the AVR rulebook with its slimline NR1602. Do we approve? Turn to p46 to find out...



HCC Ratings key

Outstanding	1 2 3 4 5
Above average	1 2 3 4 5
Acceptable	1 2 3 4 5
Disappointing	1 2 3 4 5
Dire	1 2 3 4 5

HCC DOESN'T BELIEVE IN OVER-PRAISING HARDWARE. CONSEQUENTLY, A THREE-STAR RATING SHOULDN'T BE CONSIDERED A BAD REVIEW. IN FACT, IT SIMPLY REFLECTS THAT A PRODUCT PERFORMS ACCORDING TO ITS CATEGORY POSITION. A FIVE-STAR RATING IS ONLY AWARDED IN EXCEPTIONAL CIRCUMSTANCES.

42 SONY VPL-HW30ES → £3,100 Approx → www.sony.co.uk

Bigscreen 3D for the masses

Sony's second-generation 3D projector is a sensation regardless of dimension, says an enthusiastic **Steve May**



AV/CV

PRODUCT:
Entry-level 3D compatible SXR projector

POSITION:
Sits below the £5,200 Sony VPL-VW90ES

PEERS:
JVC DLA-X3W; incoming models from Epson and Panasonic

If I was building a dedicated home cinema tomorrow, I would, without doubt, install a 3D projector.

While cynics continue to shrug at the tsunami tide of 3D flatscreen TVs heading our way, and I also have some reservations, I've yet to meet anyone who's walked away from a 3D home projector demo who didn't have a grin on their face.

After all there's something completely understandable about the simple proposition of movie-watching in a dark room, with no disturbances. In this context, 3D is a killer addition to the home entertainment experience.

And if I was equipping said picture palace, Sony's second generation VPL-HW30ES would be on my shortlist. It's a breathtakingly good projector, blessed with an alluring price tag. By my reckoning, that's the equivalent of around fifty family visits to the local multiplex (including snacks and beverages). This thing would pay for itself in no time...

Glossy design

The VPL-HW30ES' design is in line with previous Sony SXR (Silicon X-tal Reflective Display) projectors. The distinctive curvaceous, glossy lid and side-mounted inputs look suitably swish. My test sample was finished in the standard black, but there's a new white finish (pictured overleaf) available, too. There's a broad connection choice of two HDMI, PC D-Sub, component video, RS232 and Ethernet. Yet one obvious omission is a 12V trigger. Frankly all projectors of this calibre should have this as standard. Used to integrate a projector with an electric screen, this 3.5mm jack can hardly be construed as a luxury. I'm sure I'm not alone at feeling a little miffed by its absence.

There are other marked differences between this model and last year's VPL-VW90ES, but these seem more justifiable given the cost saving.

The motorised lens protector and zoom have gone, along with the ingeniously integrated 3D glasses sync transmitter. Instead, we get a separate transmitter, the TMR-PJ1, which ties to the projector via Cat5 cable. Consequently, you'll need to give the VPL-HW30ES some thought when it comes to installation, as the transmitter needs to be placed close to the screen, facing the audience.

Thankfully, the imaging engine beneath the lid is just the same; the 240Hz panel delivers superb detail and colour fidelity.

New this season is a Dynamic Lamp Control which delivers three times the brightness of last year's model. This light boost makes a huge difference to 3D performance.

Sony has also refined its 3D projector glasses. First time around, you needed to affix little filters to each lens; this year the new Active Shutter TDG-PJ1 eyewear is good to go straight from the box. They're also considerably lighter; Sony has reduced their weight by 18g. Even worn over prescription spectacles, they're manageable. While they have

to be manually powered up to sync, they switch-off automatically, preserving juice. The glasses are USB rechargeable – a 30-minute session on the ring main provides around 30 hours of use.

Interestingly, the spectacles are not officially included with the projector. Like the transmitter, they're an optional extra. However, Sony UK concedes that all dealers are likely to bundle goggles and projector together as a package. Do remember to check this when comparing prices from different retailers.

The motorised zoom may be missed, but horizontal and vertical lens shift wheels make for a simple setup. The throw distance is generous enough to achieve an image of 120in from a distance of a little over 13ft.

The remote control is also backlit, an eminently sensible provision.

The VPL-HW30ES is respectfully quiet. Run the lamp on Low and fan noise drops to a gentle 22dB; this is perfectly acceptable in a cinema environment. Even during quiet scenes I wasn't really aware of it.

Simply ravishing

While this projector offers multiple tweaks for colour temperature, gamma and noise reduction, you really don't need to work too hard to get a great-looking image.

Regardless of your views on 3D, the VPL-HW30ES is a fine 2D projector. It's capable of deep, convincing blacks with tangible shadow detail. Unlike rival D-ILA

→ Specifications

3D: YES Active shutter
Full HD: YES 1080p/24
Component video: YES one set of inputs
HDMI: YES 2 v1.4
PC input: YES D-Sub 15 Pin
12V trigger: NO
Resolution: 1920 x 1080
Brightness (claimed): 1,300 ANSI Lumen
Contrast ratio (claimed): 70,000:1
Dimensions: 407 x 179 x 464 mm (w/h/d)
Weight: 10kg
Features: 240Hz SXR panel; frame sequential/side by side/top and bottom 3D; 2D-3D conversion; backlit remote control, MotionFlow fast framerate technology; Advanced Iris system; Dynamic Lamp Control; real /digital cinema/pro monitors Cinema modes; 480/60i, 576/50i, 480/60p, 576/50p, 720/60p, 720/50p, 1080/60i, 1080/50i, 1080/24p; TMR-PJ1 sync emitter and TDG-PJ1 3D-glasses available as an optional extra

This 3D projector quickly pays for itself versus going to your local multiplex



technology, SXRD relies on a dynamic iris to deliver deep contrast. Here the Advanced Iris system has a couple of auto modes, which adjust to scene content; sensitivity is variable. I wasn't particularly aware of the iris opening or closing during my audition. Alternatively, you can manually set and fix it to taste.

The VPL-HW30ES is all about eye candy. Arthouse animation *Chico & Rita* looks simply ravishing, displaying vibrant reds rather than washed-out oranges. Colours really pop from the screen. There are no fewer than nine picture presets available, including a trio of Cinema modes designed to emulate the characteristics of 'real film', 'digital cinema' and 'pro monitors.' There are also modes dedicated to 3D gaming and still photography. Investigate them at your leisure, because differences can be subtle.

Motion resolution is good, provided you engage Sony's proprietary fast framerate technology. The VPL-HW30ES offers two MotionFlow processing modes, Low and High. With MotionFlow off, the moving picture resolution of the unit falls from 1080lines to approximately 750 (when motion is locked at 6.5 pixels per frame). The good news is that horizontal panning judder is inherently low.

Switch the Motion Enhancer to Low and definition creeps up to around 950lines. The process creates some slight artefacts around moving objects, but nothing to write home about. I'd regard either setting as fine for watching movies.

Give the High setting a wide berth though, unless you're watching ice hockey... or maybe curling. The resulting sheen removes all traces of cinematic texture.

Side on:

A wide choice of ports includes twin HDMI jacks, but no 12V trigger

Fuss-free: The remote is backlit with a sensible design



In 3D mode, the VPL-HW30ES is nearly as impressive. The 240Hz panel is fast, but there's still some double imaging visible on traditionally troublesome Blu-ray discs. Thankfully, the quality of 3D authoring is evolving rapidly and as a consequence discs seem less susceptible to crosstalk. *Resident Evil: Afterlife* and *Tangled* (an interesting double bill at the best of times) offer stunning depth and clarity. *RE: Afterlife* consistently uses rain and water to emphasise depth, which is far more effective on a large screen than when viewed on 3D TV. The credit sequence in particular is stunning; you really will feel caught in the downpour.

The VPL-HW30ES is equally entertaining when fed by a console. Sony has a small but perfectly formed selection of 3D titles now for the PS3, and they're quite a hoot in Gigantovision. Fast-moving games are next to impossible to spot crosstalk on, so you can just relax and play.

Perhaps predictably, Sony has also invested this projector with the ability to dimensionalise 2D content, using algorithms borrowed from its Bravia TV line. However, I hereby deem this feature to be pointless and refuse to comment on it further.

Two thumbs up

The Big S has delivered a barnstorming big-screen product with the VPL-HW30ES. Not only is it good enough to convert the fiercest 3D cynics, it's also a darn fine 2D projector in its own right. While it may not be perfect – the lack of a 12V trigger particularly rankles and I'd rather the transmitter was back integrated with the lens assembly – this remains a compelling argument for bringing big-screen 3D home •

Tech Labs

Power consumption: Watts



White screen:
Decent power measurement with our 100IRE test

Test footage:
No increase with movie playback or by adjusting user modes

TV Contrast: Ratio



Picture:
Very good real world contrast ratio. With Cinema Black Pro and lamp control set to high, contrast jumped to 60,841:1

Colour temp: Kelvin



Presets:
The Sony can be coaxed to 6,500K via calibration
High: 7,800K
Middle: 7,000K
Low 1: 5,800K
Low 2: 5,000K
Custom 1: 7,800K
Custom 2: 7,000K
Custom 3: 6,200K
Custom 4: 5,000K
Custom 5: 8,200K



HCC VERDICT

Sony VPL-HW30ES
£3,100 approx

Highs: Gorgeous 2D performance; deep blacks and excellent colour
Lows: No 12V trigger; minor crosstalk; separate 3D sync transmitter

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

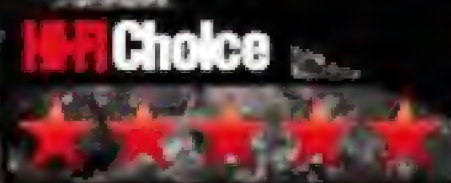
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No lightweight...

This slimline AVR re-imagines home cinema for the network age.

Steve May hums *The Times They Are a-Changin'...*

Whether through luck or design, Marantz has created something rather special with the NR1602. Driven by a desire to innovate within the often stultifying constraints of hardcore AV, the company has taken the traditional hefty AVR form factor and chopped it in half. The result is a component with a good deal more va-va-voom than its peers.

But there's more to the NR1602 than downsizing. The brand has also

AV/CV

PRODUCT:
Slimline 7.1 AV receiver

POSITION:
Step-up brother to the NR1402 model

PEERS:
Onkyo TX-NR609;
Pioneer VSX-921

rebalanced feature priorities. Network streaming, internet radio and AirPlay are as important to this AVR as multichannel audio. If you were to reboot the home theatre market tomorrow, the NR1602 would be the benchmark.

Signature livery

The machine has a distinctive, Marantz-flavoured fascia: all curved edges and fussy buttonry. It's also available in both black and

'silvergold', the latter harking back to an era of champagne-coloured separates, and I must say I approve.

Standing 105mm tall, this receiver is not much larger than a Blu-ray player. However, the NR1602 is a 7.1 model boasting solid connectivity and every key audio codec (Dolby TrueHD, DTS-HD Master Audio, DD Plus, DTS HD, plus DSX height/width processing).

It has four 3D-compatible HDMI inputs (all with support for Audio



Redundant?:

The NR1602 can also be controlled via an iOS or Android device



Return Channel compatible gear), two component and three phono AV inputs, digital optical and coaxial audio inputs, plus Ethernet. There's also an accessory Marantz-eXtension Port for an optional Bluetooth receiver, enabling you to wirelessly stream from your Windows or Android mobile. All speakers benefit from decent binding posts.

Connectivity extends to the front with a USB input that doubles as both a digital iPod/iPhone connection and media reader. The NR1602 is just as comfortable browsing external hard drives as large USB sticks. It certainly wasn't fazed by a full 160GB drive.

Hero GUI

The set-up routine is polished and painless. An easy-to-follow wizard guides you through the system configuration, speaker connections and room calibration. The user interface on this AVR is terrific. It's high-res, fast and intuitive. Assigning inputs is particularly simple, thanks

to a neat tabular layout. Why doesn't everyone do it this way? There's also a video overlay for volume and channel selection, still something of a rarity on HDMI kit.

The NR1602 comes with Audyssey's MultiEQ auto-calibration system. A supplied microphone plugs into the front of the AVR and, when prompted, issues a series of squawks to assess distance and level. It can take measurements from multiple seating positions (the 2EQ Full Calibration mode), or just one (Quick Start). However, as I've found with previous Audyssey calibration systems, accuracy can be a little suspect; in this instance the unit miscalculated the relative distances of my rear speakers and subwoofer. Still, this is a simple fix. You can always forego auto-calibration entirely, manually setting distance and levels for yourself.

Audyssey's MultiEQ system comes saddled with Audyssey Dynamic EQ and Dynamic Volume technologies,

neither of which I much care for.

Dynamic Volume should be switched off immediately. Designed to smooth out the dynamic peaks in source material, it's of use only to those who don't like loud bangs. Like kittens.

Once on your LAN, this DLNA-savvy receiver quickly sniffs out other like-minded devices. It found my assorted uPnP and DLNA NAS devices instantly. The receiver also rocks a very nice internet radio implementation, and includes support for Last.FM, Napster and even Flickr, the photo-sharing site.

While there's an AM/FM receiver onboard, I can't see it getting much use when there are so many net music options. Not only is there a bigger universe of choice online, but quality is generally better, too.

As it happens, having Flickr on an AVR alongside net radio proves to be a wizard wheeze. **While the NR1602 does have a screensaver to prevent image retention, letting it slideshow Flickr images is a great way to fill the visual void.**

Streaming audio file compatibility is solid across LAN and from USB. The NR1602 has no problem with MP3, Ogg, WMA, WAV, FLAC and AAC files. It also correctly read artist and album metadata.

Of course, the centre of attraction for iTunes and iOS users will be the provision of AirPlay. It takes no time at all to set up, and you'll soon be streaming from either PC or Mac, or iOS device.

→ Specifications

Dolby TrueHD: YES
DTS-HD Master Audio: YES
THX: NO
Multichannel audio: YES 7x50W
Multichannel output: YES 7.1 channel
Multiroom input: NO
Multiroom: YES one stereo zone audio only
AV inputs: Two digital audio inputs (optical and coaxial), three phono AV inputs, USB
HDMI input/output: YES 4 inputs and 1 output V1.4a (supports 3D video and Audio Return Channel)
Video upscaling: YES to 1080p
Component input/output: YES 2-in, 1-out
Dimensions: 440 x 105 x 369 mm
Weight: 8.2 kg
Features: iPod support via USB dock; Ethernet jack; DLNA support; Internet Radio; Flickr; Last.fm; Napster; USB port for flash drives and external drives; AM/FM radio; Audyssey auto-calibration via microphone; M-XPort (Marantz-eXtension Port); Audyssey DSX height/width; Bi-amp front speaker option; sleep timer



The NR1602 certainly doesn't look like your typical 7-channel AVR



Tech Labs

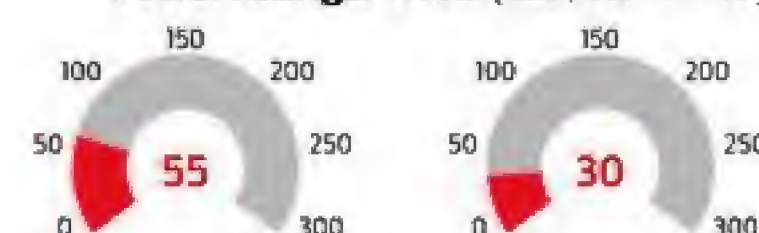
Power consumption: Watts



Idling: Lower than much of the full-fat AVR competition, but still quite high

Powered: An average consumption figure with movie footage at a sensible listening level

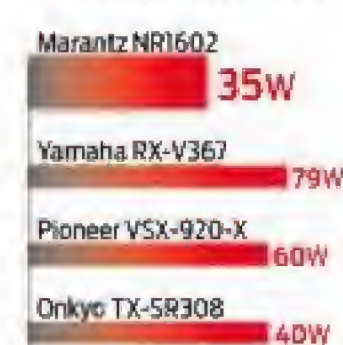
Power ratings: Watts (8Ω, 0.5% THD)



2-channel 8Ω: We measured 55W per channel in stereo mode, a smidgeon over Marantz's spec

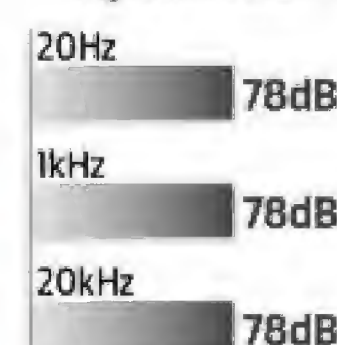
5-channel 8Ω: The usual drop off in multichannel mode, but 30W should be fine for many setups

Untainted: Watts



Fidelity firewall: A measurement of power untainted by distortion (0.02THD, 8Ω, 1kHz)

Signal/noise: dB



S/N tests: Consistent measurements across the frequency range

Onscreen: Menu



Speaker setup: You can configure the NR1602 for full 7.1, or use the extra amps for a stereo second zone



HCC VERDICT

Marantz NR1602
£530 Approx

Highs: Rich, melodious character; AirPlay and internet radio; good audio file compatibility; slick design
Lows: Audyssey AutoEQ not always accurate; not a muscle amp

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

Feeling Blue:

The usual suspects are joined by the Marantz-eXtension Port for an optional Bluetooth-receiver

As a user experience, AirPlay verges on the transformational. It's a very cool way to explore a music collection, especially via an iPad.

The balance of power

One inevitable consequence of the smaller form factor is that the NR1602 can't compete with the heavy power reserves of larger muscle amps. Its paper specification is 7 x 50W. Is this a deal breaker? My guess is that this is not going to prove problematic in the average living room. Given that even in dedicated home theatres you're unlikely to run amplification at more than -15dB, this shortfall in welly is not difficult to live with. Indeed, **I ran both music and movies in multichannel mode and never felt short-changed.**

Surprisingly, the little NR1602 does a splendid job driving large speaker loads. I used it with sizeable Definitive Technology Reference boxes. Laced up to a more sensible speaker package (maybe something smaller from sister brand Boston Acoustics) and it'll rock the house.

Multichannel Super Audio CD on the NR1602 is a treat. Hooked up to Marantz' UD7006 Universal Blu-ray player, this AVR sounds relaxed and open. Emi Fujita's MOR crooning (Camomile Best Audio, Japanese import), not only exhibits terrific width, but also has tangible depth. It's like 3D for the ears.

The NR1602 also handles fast transients with snappy ease and exhibits more than enough energy to cope with the sonic excitement of the *Tron: Legacy* bike duel. *Tron's* 7.1 Blu-ray soundtrack remains one of

the best of the year, and this little box does a thumpingly good job with it. Not only is the directionality of its steering effortlessly sharp, there's a roundness to the dialogue and a depth to the LFE, which makes for surprisingly rich listening.

It's worth stretching to a full 7-channel speaker complement if you can. The smattering of 7.1 Blu-ray audio mixes is worth the indulgence. And while the best you'll get from broadcasters at the moment is Dolby Digital 5.1, the NR1602 can evenly distribute this using Dolby EX to all channels. This post-processing mode works well and I'd recommend using it if you're running with an expanded setup. If you don't plan on running rear back speakers, you can assign the spare channels as a stereo feed to another room.

Winter warmer

While most users will naturally rely on HDMI for sound and vision, the NR1602's analogue inputs offer toasty warmth. Compact Discs played on the aforementioned UD7006 and routed in via the stereo analogue inputs with Pure Direct selected, are as smooth as a cauldron of Swiss chocolate. Mozart's *Violin Concerto in D Major* (from 2L) offers no sense of no digital harshness – it's just delicious.

While the NR1602 may not throw quite the same long shadow as traditional home cinema receivers, it doesn't lack in audacity. In the maelstrom of mass market AV receivers, it's a slimline oasis of style and substance. Indeed, when it comes to networked theatre, it has few peers at the price ●

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The Jamo system offers plenty
of bang for your buck.



Full-range frugal audio

Danny Phillips auditions a 5-channel system that's got legs

AV/CV

PRODUCT:

Value 5.0 floorstander speaker system and optional sub

POSITION:

Entry-level

PEERS:

Teufel Columna 200; KEF KHT1505; Cambridge Audio Minx S325

Danish brand Jamo has been exciting home cinema senses for years with killer audio kit that won't break the bank. A case in point is the £260 S426 HCS3, a system that features a pair of 910mm-high S426 floorstanding speakers at the front, which isn't something you'd expect for this price.

They're joined by a pair of bookshelf surround channels (S420 SUR) and a centre speaker (S420 CEN). The system doesn't come with a subwoofer as standard, but you can add the SUB 260, which incredibly costs more (£300) than the rest of the package put together...

Jamo has compromised on the floorstanders' build quality. They're lighter than you'd expect and there's a hollow sound when you tap 'em, none of which screams 'audiophile'...

Jamo's designers cleverly divert attention from this with a dashing design – industrial grey panels below the removable grilles are set into a tasteful black ash finish (also in White Ash and Wenge).

Both the centre and surrounds are exclusive to this system and can be easily wall-mounted thanks to keyholes on the back. Build quality is solid, although springclips on the back of the S420 SURs are a slight disappointment considering the rest of the speakers sport binding posts.

It may be an optional extra, but the SUB260 subwoofer fits in aesthetically with the other cabinets. And while its design could cause a problem if you're pushed for space, it does allow plenty of internal volume. On the inside are the titular 260W amplifier and an 8in woofer; the back panel offers dials governing level, crossover frequency and phase. Frequency-wise, the SUB260 patrols the 30-200Hz territory.

Meanwhile the S426's two-way bass-reflex enclosure houses dual

5.5in woofers and a 1in low-resonance Waveguide tweeter. The surrounds and centre are also two-way, but use smaller drivers.

Meaty sound

Despite its budget nature, the S426 HCS3 is no shrinking violet. It's thunderously powerful, not only thanks to the Herculean subwoofer but also to the natural drive of the floorstanders. They're authoritative and dynamic, lending depth and weight to the meaty bits in any blockbuster flick.

But the SUB260 is the real muscle, needing little prompting to unleash its thick, thumping bass upon you and your neighbours. It may take a bit of dial-tweaking to lock it all down but the results can be superb – it's taut, controlled and joins seamlessly with the other speakers.

In fact, **the entire system displays levels of teamwork and interaction the Harlem Globetrotters would be proud of**, with a tight, coherent sound glued together by the SUB260's fluid bass notes. As you move up through the frequency range, it masterfully articulates speech, while high-frequency reproduction is terrific, making DTS HD Master Audio material sparkle without sounding too harsh.

This boisterous sound is instantly gratifying and designed for maximum impact, yet sometimes it comes at the expense of poise and insightful detail retrieval. But when it's this much fun to listen to, who cares? You're getting a powerful 5.1 system with floorstanding speakers for the same sort of money you'd expect to pay for a good set of compacts. It's not the finest array Jamo has ever produced, but if you're looking for bang for your buck then this Great Dane is certainly worth a punt ●

→ Specifications

S426 floorstanders

Drive units: 2 x 5.5in woofers; 1 x 1in Waveguide tweeter
Enclosure: Two-way bass reflex
Frequency response: 48Hz-20kHz
Sensitivity: 89dB
Power handling: 100W
Dimensions: 180(w) x 910(h) x 238(d)mm
Weight: 8.7kg

S420 SUR

Drive units: 1 x 3.5in woofer; 0.75in tweeter
Enclosure: Two-way closed
Frequency response: 90Hz-20kHz
Sensitivity: 86dB
Power handling: 60W
Dimensions: 118(w) x 215(h) x 125(d)mm
Weight: 1kg

S420 CEN

Drive units: 1 x 3.5in woofer, 1 x 0.75in tweeter
Enclosure: Two-way closed
Frequency response: 90Hz-20kHz
Sensitivity: 87dB
Power handling: 90W
Dimensions: 340(w) x 118(h) x 125(d)mm
Weight: 1.8kg

SUB260

Drive units: 1 x 8in woofer
Enclosure: Slotted port
Frequency response: 30-200Hz
On board power: 260W
Dimensions: 325(w) x 267(h) x 469(d)mm
Weight: 13kg
Connections: Phono stereo input and output



HCC VERDICT

Jamo S426 HCS3
Approx £560

Highs: Boisterous, muscular sound; great value; superb sub
Lows: Lightweight build; opts for excitement over refinement; sub is expensive addition

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

→ Specifications

3D: YES, Active shutter
Full HD: YES including 1080p24
Tuner: YES Freeview HD
Component video: YES one input (rear)
HDMI/DVI: YES four, v1.4
PC input: YES one D-Sub
Resolution: 1920x1080
Sound: 3x10w
Brightness (claimed): N/A; Contrast ratio (claimed): 'Mega'
Dimensions (off stand): 943(w) x 586(h) x 42(d)mm
Weight: 11.6kg
Other features: MotionFlow XR 400 processing; USB media playback; gamma management; noise reduction processing; white balance adjustment; gamma controls; Bravia Internet Video online functionality; DLNA streaming support; Track ID



Good looks, great performance, but not too generous with extras

Mid-range marvel

Sony continues its 3D resurrection with its latest 40in TV, says **John Archer**

Sony's EX723 series turned out to be some of the worse 3D performers we've seen, but subsequent 3D models have upped the brand's game.

On paper at least, this set looks equipped to do the business. It carries MotionFlow XR 400 processing; a system that combines the detail boosting, noise-reducing qualities of Sony's new X-Reality picture engine with a 400Hz effect to hopefully kick crosstalk into touch.

It looks quite pleasant, but the build quality feels more plasticky and lightweight than it should on a fairly high-end TV. The black bezel protrudes on three sides, offset by a metallic-looking silver bottom edge.

The 40HX723's 3D system is the active, full HD one, with the transmitter built into the set. Sadly, no 3D glasses are included, even for the steep asking price.

Generous connections deliver highlights of four HDMI, a LAN port, and two USB ports. The latter can be used for recording from the built-in Freeview HD tuner, for playing back a decent selection of photo, music and video multimedia file formats, or for enabling the TV for wi-fi via an optional dongle (which should have been included for free for the price).

Streaming supremo

The LAN port provides a portal to a treasure trove of goodies, streaming in files from a networked DLNA-enabled PC, or getting you online with Sony's Bravia Internet Video (BIV) service, which remains my favourite because it delivers so much streamed video. Highlights include: the BBC iPlayer; the Demand 5 catch-up service; a Sky News headline feed; YouTube; LOVEFILM, a Sony classic TV series library and the brand's latest Qriocity video and music subscription services.

If you're brave enough to explore the 40HX723's torturous menus, you'll find a solid set of picture

AV/CV

PRODUCT: Edge-lit LED TV with active 3D playback

POSITION: About midway in the upper half of Sony's current range

PEERS: Samsung UE40D7000; Panasonic P42VT30

Get a round in: Comfortable and easy to use once you've got used to its main 'concentric circle' section



adjustments. Worth trying are the various settings for the MotionFlow system, multiple gamma presets, and a 'Smooth Gradation' mode that claims to deliver 14-bit colour blends.

Donning a pair of Sony's optional glasses, I braced myself for a crosstalk-fuelled 3D nightmare... but that's not at all what I got. In fact, **tricky bright 3D scenes like the Golden Gate Bridge sequence in *Monsters Vs Aliens* hardly betray any crosstalk.** There's still a trace of it during dark scenes, but it's low level for the most part.

Blu-ray pictures look sharp and detailed too, delivering on active 3D's full HD promise, and while Sony's active shutter glasses drain the brightness out of 3D images, the 40HX723's edge LED lighting system compensates well enough to leave them looking decently dynamic.

When it comes to 2D, the 40HX723 is one of Sony's best LCD TVs yet. Particularly impressive is its portrayal of dark scenes, thanks to a startlingly inky black level response and (provided you tone down the set's backlight/brightness settings) relatively little trouble from inconsistent backlight levels. Colours are pure, natural and subtle, and 2D pictures look bright and punchy.

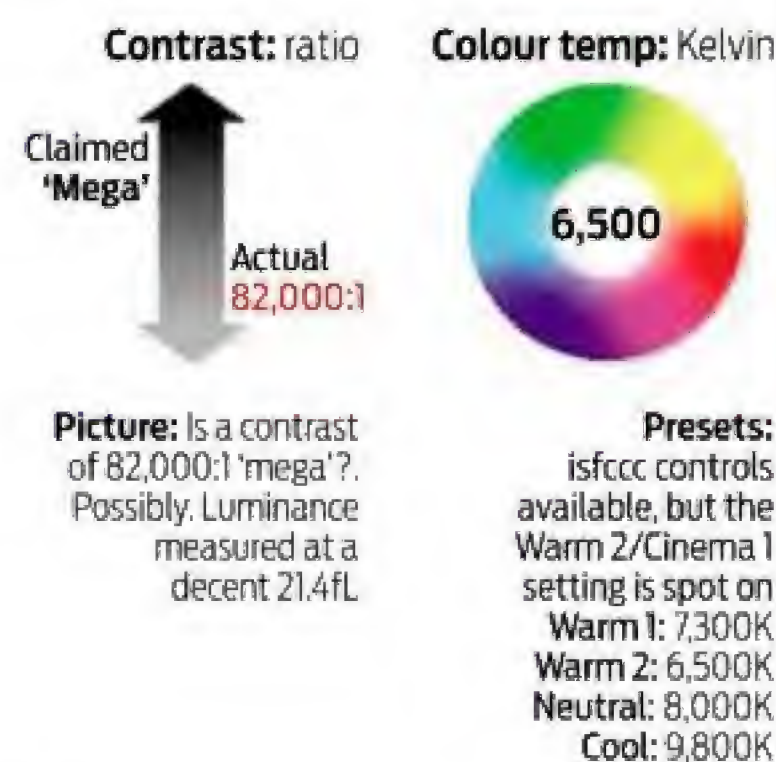
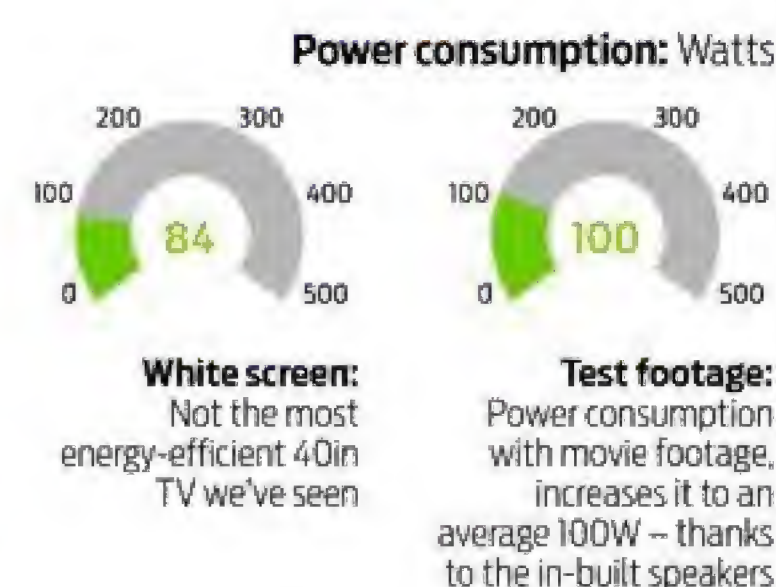
As well as helping to reduce 3D crosstalk, meanwhile, the '400Hz' motion engine keeps a lid on general blur and judder. And provided you're careful with the MotionFlow options, it does so without causing the picture to look over processed.

Hi-def 2D material is superbly crisp and detailed, and even upscaled SD pictures look excellent thanks to Sony's X-Reality Pro engine.

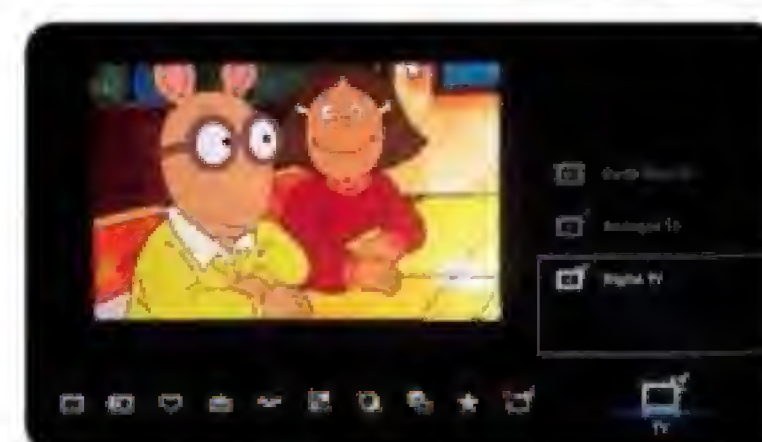
Gamers will be impressed by the contrast and sharpness, but also by the respectable 40ms of input lag using the set's Game preset.

Add some respectable audio to the 40HX723's potent performance mix, and you've got an A-list TV.

Tech Labs



Onscreen: Menu



Multitask: Menu functions appear at the bottom of the screen, below a good-sized video window

HCC VERDICT

Sony KDL-40HX723
£1,300 Approx

Highs: Mostly very good 3D pictures; excellent 2D pictures; Sony's BIV online system is superb

Lows: Residual 3D crosstalk in dark scenes; more than a little overpriced

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5



The T757 looks as unassailable as an MoD-built submarine

Raw power, no frills

Richard Stevenson auditions the wild child of audio visual receivers and finds that this non-conformist is a credit to the NAD lineage

NAD is not a brand to follow the masses. In fact, while the AVR herd are grazing on features and connecting to the milking machine of network integration, NAD receivers are more 'free range'. The T757 goes a step further and is truly feral. What we have here is a

significantly wallet-wrenching AV receiver that has thrown off what are considered basic features on even budget models costing one-fifth of the price. Instead, this chunky beast concentrates on sonic performance, delivering your speakers an ultra-clean analogue signal designed to

make your ears love you. I would even go so far as to say that its dark grey exterior and clean lines make it the best-looking NAD receiver yet, too.

Not as EQ as others

So let's look at what the T757 doesn't do. There is no Room EQ as NAD



believes in the more purist 'hi-fi' approach to sound. There is no fancy GUI, no App-based remote control and no networking functionality. While the relatively frugal 4-in/1-out HDMI connectivity has 3D/deep colour switching compatibility the T757 has no upscaling or Audio Return Channel functionality. If you have an old DVD player or standard-definition broadcast TV the NAD will convert analogue inputs to HDMI, but only at native resolution. Given that anyone in the market for a £1,500 AVR probably already has an upscaling Blu-ray player or upconverting TV anyway, maybe this isn't such a great loss after all.

Connectivity is pretty comprehensive, but the lack of USB input is a pain for those with a penchant for digital music devices, or who regularly use their notebook PC

AV/CV

PRODUCT:
Performance-
focussed AVR

POSITION:
Seventh in
NAD's range
of 10 AVRs

PEERS:
Onkyo
TX-NR1009;
Yamaha
RX-A2010

as a source. The T757 does offer some iPod integration, but only by using the optional IPD-2 dock, which will cost you another hundred quid. Fully-powered zone 2 audio output can be achieved using channels 6 & 7 and NAD supplies a credit-card style second zone remote for this application. Alternatively you use those amplifiers to run 5.1 and bi-amp the front channels, which works a treat with the T757.

NAD has significantly upgraded its user interface and onscreen menus for the T757. Its simple text menus are speedy to navigate and presented at 1080p over HDMI. An onscreen mini-menu is also available that shows base-line info (volume adjustments etc) for a few seconds overlaid over the on screen content. The menu methodology is straight forward enough, albeit after getting

→ Specifications

Dolby Digital TrueHD: YES

DTS-HD Master Audio: YES

THX: NO

Multichannel audio: YES 7 x 60W

Multichannel input: YES, 7.1 RCA input

Multiroom: YES, 1 powered audio zone

AV inputs: YES, 3 composite, 1 S-video

inputs, 4 optical and 3 coaxial

HDMI input/output: YES 4-in, 1-out v1.3

(3D bandwidth but no ARC)

Video upscaling: NO

Component input/output: YES 3-in, 1-out

Dimensions: 435(w) x 172(h) x

397(d)mm

Weight: 15kg

Features: Modular Design

Construction; iPod support via

optional dock; front mounted

optical digital input

used to a quirk of the remote control; when you have highlighted a feature in the menu, you have to press the right arrow to select it rather than the more usual 'enter' key. Surreal.

And then there is the specification sheet. While supremely low distortion and excellent signal-to-noise figures are indeed impressive, 60W per channel is not. Looking at the beefy power supplies and solid internal build of the T757, I can only conclude that some of the smaller components, such as the transistors, have been chosen for their sonic abilities rather than their power output. That said, if it can actually produce a genuine 60W (see test) for all seven channels when the going gets tough, it will then perform on par with most AVRs that like to claim power well over 100W on paper. From an installer's point of view, **the T757 is also well up to spec with RS232 control and plenty of 12v triggers and IR repeaters.**

One of this NAD's most appealing features is its Modular Design Construction. Claimed to enable users to embrace the ever-changing world of AV technology without having to ditch their original investment, MDC means that most sections of the T757 can be swapped out and upgraded as and when they are available. Theoretically, when we are all loving 4k x 2k video the NAD's HDMI board can be swapped out for one capable of handling this super high-definition format. The MDC concept has won NAD a prestigious Reddot Design Award.

Teething problems

The built-in Audyssey auto setup is a trimmed down system with only single point measurement and relatively coarse adjustment of dB levels and speaker distance. It also ➤

→ Tech Labs



Lost ARC:
There are four HDMI inputs and a single HDMI output – and the latter lacks the Audio Return Channel

Don't lose it:
The NAD T757 doesn't allow smart device control, so you'll need this handset



had quite an epic hiccup indicating that my monster Tannoy Dimension TD12 loudspeakers were 'small' and the Velodyne DD18 subwoofer was out of phase, irrespective of whether it was set at 0° or 180° phase. Several re-runs with the microphone in different places failed to get any different result, so I resorted to manual setup.

So, thus far we have an AVR that is rather expensive, bereft of features, low powered, hampered by a quirky remote control and utterly beleaguered with set-up issues in my room. As receiver reviews go, they don't start much worse than that.

However, in a come-back that The Who would be proud of, **the T757 pulls magic out of the bag with its unfettered audio muscle and a soundstage richer than a tray of Belgian chocolates.** It sounds warm and robust with an engaging atmosphere that actually makes it difficult to concentrate on how it sounds, without falling into the plot of the movie. Such is its enveloping nature the speakers seem to disappear, leaving you cosseted by the smooth and inviting soundstage.

Packing a punch

Big action blockbusters have palpable clout too. Those 60W per channel seem to punch well above their weight, although the subwoofer channel is relied on heavily to build the real sub-sonic presence that underpins the movie. In fact, I wonder if the penchant of the auto-set-up to set speakers to small is not actually engineered to offload more current hungry low frequency output to the

subwoofer. It's an interesting conspiracy theory, but play *Fast & Furious 5* and it really doesn't matter. The cars howl, the gunshots pound the room and the girls look fabulous. I realise that this has little to do with the AVR, but it is of note that the T757 does nothing to get in the way of one's appreciation.

The more esoteric *Paul* on Blu-ray is a feast of effects from the opening sound of the huge door shutting to the crowd scenes at the San Diego geek convention. The soundtrack moves along at a pace, while dialogue is bold and solid. The lack of EQ allows my room's 60Hz boost to get a little noticeable, but it never gets overbearing. The upshot is the size of the soundstage and the positioning of effects in it is not quite as crisp and precise as some of the NAD's peers, but the sheer presence more than makes up for it.

Musical talents

While I don't usually mention too much about stereo music reproduction, the T757 rather demands it. With the front channels in bi-amp mode, there is plenty of power and no hint of the top-end grain that can afflict some AVRs when listening to a high quality two-channel source.

It laps up a range of musical styles, eking out the detail in complex classical music, while rocking the sofa with more up-tempo material. After living with the T757 for a week, it feels more like a good hi-fi amplifier with the added benefit of providing stellar AV surround sound service as well. And I might even be able to live without those missing features yet ●

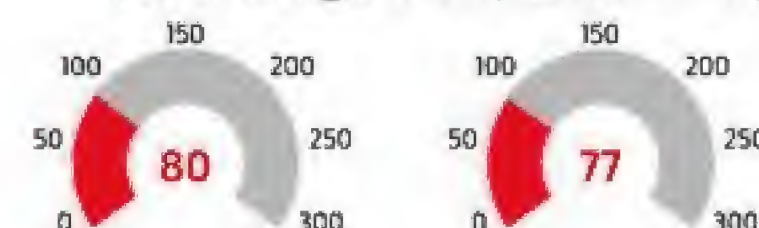
Power consumption: Watts



Idling: As with all AVRs, you might want to switch it off when you're not using it

Powered: In five-channel mode and at a comfortable listening level, real world consumption averaged 85W

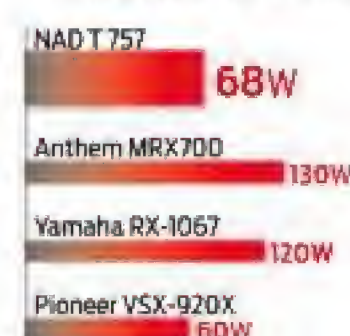
Power ratings: Watts (8Ω, 0.5% THD)



2-channel 8Ω: 80W-per-channel is above NAD's own specification...

5-channel 8Ω: ...as is this five-channel measurement. We recorded 77W with seven channels driven, too.

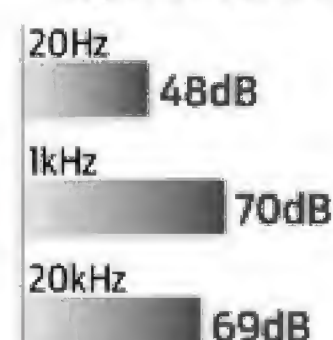
Untainted: Watts



Fidelity firewall:

A measurement of power untainted by distortion (0.02THD, 8Ω, 1kHz)

Signal/noise: dB



S/N tests:

Low-frequency test not as impressive as the rest

Onscreen: Menu



Feeling blue:

The NAD's text-based UI overlay is in keeping with its Roonale approach



HCC VERDICT

NAD T757
£1,500 Approx

Highs: Rich and enveloping sound; great stereo performance; modular design construction

Lows: No EQ; USB input or networking; basic onscreen menus

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5



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3D's going Places

Toshiba's 47VL863B is its first passive 3D TV. **John Archer** finds out if it helps or hinders the passive argument

AV/CV

PRODUCT:
A 42in edge-lit, passive 3D TV

POSITION:
The largest of two TVs in the VL863 series, near the top of Toshiba's range

PEERS:
LG 42LW550T;
Panasonic P42GT30

Whatever issues you might have with passive 3D technology, the fact that it lets you watch 3D with flicker-free, cheap-as-chips glasses is a family-friendly boon.

So, it's no surprise at all to find other brands buying in LG's passive 3D tech to use in their own 2011 TV ranges, and first up is Toshiba's fairly-priced 47VL863B, which is also passably easy on the eye with its slim bezel, trim rear and minimalist black finish. But it does feel rather flimsy.

It's very well connected for the price; four HDMI's cater for your HD and 3D needs, while a LAN port will access stuff on a DLNA PC or Toshiba's new 'Places' online service. Twin USBs can either play back multimedia files or add wi-fi via an optional dongle.

Toshiba's Places smart TV online service shows potential, but content is currently very limited. For video you're restricted to YouTube, the BBC iPlayer, Daily Motion, Viewster, Woomi, plus a trio of subscription services. As for apps, you can access the Flickr photo site and Facebook is coming soon, but that's it. I'm hoping Toshiba will add more content to the Places 'cloud' soon.

Solid specs

The TV boasts a 200Hz system for sharper and more fluid motion; adjustments to the TV's static gamma settings; two-point and 10-point white balance calibration; and even a colour management system for adjusting the RGBCYM colour components. Surprisingly, though, it doesn't include 2D to 3D conversion among its many options.

The 3D picture quality is a chip off the LG passive block, which is no bad thing. Watching with passive glasses certainly feels relaxing with no flickering, practically no crosstalk (unless you're viewing from more than about 15° above or below the screen), more brightness and richer

colours. And as the 47VL863B ships with four pairs of spec, a whole family can watch 3D right away.

Lines and jaggies

On the downside, 3D Blu-rays don't look quite as detailed as they do on active sets, and curved edges can look rather jagged thanks to the filter on the screen. You can also occasionally make out the horizontal line structure of the 3D filter, if you're sat too close to the TV.

While the 47VL863B's 3D pictures are generally persuasive, its 2D pictures give more cause for concern; dark scenes look grey and lack black-level depth. Also, the screen's backlight level looks patchy and inconsistent during, for instance, the night-time mermaid sequence in *Pirates of the Caribbean: On Stranger Tides*. Reducing the image's backlight and brightness only leaves dark areas without shadow detail.

In many other ways the 47VL863B is pretty good in 2D. Colours are punchy and dynamic without becoming cartoonish. Fine detail from HD sources is good too, and motion largely avoids the blurring and resolution loss that can affect LCD TVs.

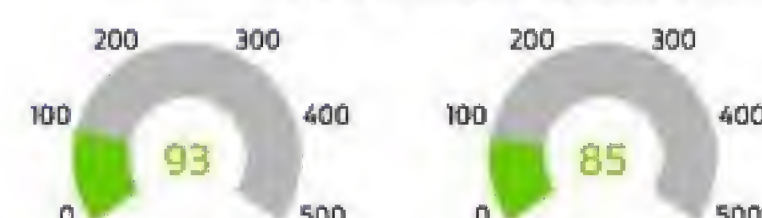
Standard-def pictures can look a tad noisy, but they can also be made to look unusually sharp via a built-in 'Resolution+' processing system. Meanwhile, gamers will appreciate the 47VL863B's lowly 35ms of input lag, which shouldn't negatively impact performance.

The 47VL863B's sonics fall prey to the usual flat TV woes of a lack of bass and some rather harsh trebles during action scenes. But Toshiba's set is hardly unique in this.

The set's contrast issues stop me giving it a whole-hearted recommendation. However, its 3D pictures are fun and friendly, and there are times when its 2D images look very nice, too. And it's cheaper than LG's 47LW550T equivalent... ●

Tech Labs

Power consumption: Watts



White screen:
An average measurement with our 100IRE test screen

Test footage:
With movie material consumption drops, but it's not as low as some rival screens manage

Contrast: ratio



Picture: Tosh claims a Dynamic contrast of 7m:1 but also a regular figure of 1,600:1. We measured the TV's contrast much closer to the latter at 2,400:1

Colour temp: Kelvin



Presets:
The ten-step colour temp mode offers a preset close to the ideal
0: 5,850K
1: 6,360K
2: 6,900K
10: 11,300K

Menu: On Screen



Taking Place:
Toshiba's new Places smart platform is easy to navigate, but could do with more content

HCC VERDICT

Toshiba 47VL863B
£900 Approx

Highs: Excellent calibration tools; fuss-free 3D; neat styling; Places smart TV portal

Lows: Suffers from a limited contrast range; 3D BDs lack detail

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

Hideaway:
A metal slider covers the lesser used buttons



→ Specifications

3D: YES Passive

Full HD: YES including 1080p24

Tuner: YES Freeview HD

Component video: YES 1 input

HDMI: YES 4 x v1.4

PC input: YES 1 x D-Sub

Resolution: 1920x1080 Sound: 2x10W

Brightness (claimed): 450cd/m²

Contrast ratio (claimed): 7,000,000:1

Dimensions: 1120(w) x 750(h) x 290(d)mm

Weight: 22.5kg

Other features: Four pairs of passive 3D glasses included; Active Vision M400 processing inc 200Hz refresh rate; USB media playback; colour and gamma management; noise reduction processing; white balance adjustment; built-in camera with face recognition software; Toshiba Places online functionality; DLNA streaming support



The 47VL863B has a neat, slim design

The Incredible (lack of) Hulk

Adam Rayner boggles at a set of small speakers with a big heart...

Reviewed here are the MilleniaOne and MilleniaSub products from Canadian brand Paradigm, sold as a money-no-object design, yet promoted as still costing way less than equivalent products for the level of technology.

That said, the two and a half grand asking price is not peanuts.

The MilleniaSub is priced so highly due to the sheer amount of cunning design that has gone into what is one of the most compact subwoofers around. It aims to offer

a proper slice of lows from a truly unobtrusive unit.

Cute quintet

First, though, let's look at the five speakers and their stands. The ovoid cabinets are rear-ported and can be



fitted to a cast bracket so the speaker stands either upright (for the front and rear surrounds) or on its side as a centre enclosure.

You can use a decent size conductor speaker cable, as the squeeze posts open up a few millimetres, but the cable has to be of skinny insulation and without any plugs on the end, to enable threading your cables up through the stands.

The subwoofer has just three sockets underneath it. One is the mains, one the single phono input and one is a small USB. This can be used to take instructions from Paradigm's DSP system, called the PBK or Perfect Bass Kit. It's shrouded in a 5mm thick aluminium extrusion and weighs a good bit. The foot system can go underneath it or on its flank, so you can mount this overgrown iPod-looking thing all sorts of ways, like under a sofa.

AV/CV

PRODUCT:
Compact sub/
satellite system

POSITION:
Part of
Paradigm's
Reference range

PEERS:
ATC Concept
One AV;
Monitor Audio
Apex 5.1

There are three knobs above the snazzy illuminated logo for gain adjustment, variable phase and crossover. I played some music with a nugget of prejudice in my heart that I was about to be underwhelmed by some titchy enclosures and a poncy designer product with no heart.

But my preconceptions came crashing down about my ears, for the Paradigm chaps have cleverly squeezed a quart into a pint pot.

Mini marvel

First off, the tweeters in the small MilleniaOne boxes are no compromise. **They're as sexy as if they had been in a full-size enclosure**

— the same 1in satin-anodised Aluminium dome S-PAL used elsewhere in this Reference line. The Ferrite on the back of the piston below this tweeter is as big as the cone assembly itself, and the box has an internal port tube that is gas flowed-flared at the end inside. Acoustic miniaturisation at work!

Meanwhile, the drivers in the squashed-flat subwoofer are like sawn-off shotguns, truncated in design and with motor structures reconfigured to work in the space and a diaphragm to cope with it all on the front of each bipolar driver.

Blade Runner on Blu-ray, with its delicious new mastering, was delivered without compromise by the Paradigms, although the system was limited in sheer scale compared to my resident B&W 800 series.

The sound was rich and detailed, with that synergy you get when all the surrounding channels are served by an identical enclosure. The satellites' Mica-loaded 4in cones cope easily with amazing amounts of travel and sound creation.

I used the same satellites to test the Velodyne 1,200W sub (see p68) and while the latter was much harder to hide than the MilleniaSub, it did reveal that the MilleniaOnes can really cut the mustard, melding with a massive increase in the bass and making the whole system sound really large. So two or more MilleniaSubs would work well.

Easy with music and hard-hitting on explosions from the sub, this is a real option for space-strapped fans of cinema sound. The price tag, of course, will fend off all but the most well-heeled customers, but your ears will know the difference between the Millenia package and the cheaper competition •

→ Specifications

Paradigm MilleniaOne satellites

Drive Units: 1 x 4in Mica-loaded polymer midbass; 1 x 1in S-PAL satin-anodised pure Aluminium dome tweeter
Enclosure: 2-way, rear ported
Frequency Response: 120Hz-20kHz
Sensitivity: 89dB
Power Handling: 50W
Dimensions: 115 (w) x 195 (h) x 145 (d)mm
Weight: 2.5kg

Paradigm MilleniaSub

Drive Units: Two 14in x 3in reinforced polymer cones with corrugated Santoprene surrounds
Enclosure: 5mm thick extruded Aluminium, with sealed dual driver array in bipolar arrangement for vibration cancellation
Frequency Response: 21Hz-150Hz
On board power: 300W RMS Class D
Dimensions (vertical inc stand): 465(w) x 382(h) x 125(d)mm
Weight: 10.9kg
Connections: Single phono input; micro USB for DSP (PBK) use

It looks like a router,
but is in fact a subwoofer...



HCC VERDICT

Paradigm MilleniaOne/Sub
Approx £2,500

Highs: Large soundstage belies box size; great detail and placement with proper bass authority

Lows: Cuteness and compactness comes with a big price tag

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

Missing a trick

This networkable PVR has taken its cue from the brand's Blu-ray players and is feature-rich, says **Danny Phillips**. But it has one slight flaw

The BD-DT7800 is Samsung's first stab at a standalone hi-def PVR, but with several Freeview HD/Blu-ray combis already under its belt the Korean company is in familiar territory. It's a twin-tuner affair with most of the TV recording and editing tools you need, but what sets it apart from most other PVRs on the market is the inclusion of Smart Hub, the brand's impressive array of connected applications.

This idea is not new; Humax brought out a 'TV Portal' for its HDR-FOX T2 that streams Sky Player, BBC iPlayer and others, while TVonics has added similar functions to its PVRs with a recent software update, but Samsung's superior selection of sites and dazzling onscreen presentation will knock them both into a cocked hat.

The BD-DT7800 comes equipped with two DVB-T2 tuners and a sizeable 500GB hard disk. The outer design is up to Samsung's usual standards. Build quality is first class and there's glamorous brushed silver on the fascia, plus touch-sensitive controls along the front. Daring for a PVR.

On the back is a standard array of sockets, which naturally includes an HDMI output. Strangely, we find ourselves lamenting the lack of a Scart output, chiefly because it means that you can't make copies of internal recordings on external hardware. That might mean much to some, but if you want to burn last night's *Deal or No Deal* for your Gran then you're out of luck. Elsewhere you'll find component, composite, optical digital audio and analogue

AV/CV

PRODUCT: Freeview HD PVR

POSITION: Samsung's first and only Freeview HD PVR, alongside the SMT-S7800 Freesat HD PVR

PEERS: Panasonic DMR-HW100; Humax HDR-FOX T2; TVonics DTR-HD500

stereo outputs, plus a USB port on the front panel, which is the same lineup as Samsung's Blu-ray decks.

Samsung merged its Freeview set-top box and Blu-ray divisions not so long ago, so expect to find the same operating system and snazzy networking features here.

Share everything

AllShare DLNA networking is the most mouth-watering, enabling you to stream digital media from any PC or connected device, and thanks to Samsung's open-minded approach to format support, it'll stream almost anything, including MKV, WMV, DivX HD, MP3, WMA and JPEG. And with built-in wi-fi it's easy to get online, but if you prefer you can play media from a USB storage device or external HDD.

→ Specifications

HDD: 500GB

Tuners: 2 x Freeview+ DVB-T2

HDMI: yes one out **Digital audio:** yes

Component: yes

Dimensions: 360(w) x 50(h) x

273(d)mm **Weight:** 2.7kg

Features: Built-in Wi-fi; Smart Hub; AllShare DLNA; series link; editing features; 2D-to-3D conversion; MKV, WMV, JPEG, MP3, WMA, DivX HD, Xvid playback



The BD-DT7800 is one of the most stylish PVRs around

Missing in action:

For some reason, there are two buttons on this remote that aren't labelled at all



Smart Hub is a new addition to Samsung's arsenal this year, and its inclusion on a Freeview PVR is a massive bonus as it's a great catch-up accompaniment to its live TV capabilities. It brings a range of applications to your TV, such as BBC iPlayer, YouTube, Facebook, Twitter, Picasa, LOVEFILM and BBC News, but it's all in the presentation. **The apps are laid out in a funky grid as per the iPhone or Android.** You can also organise them into folders, search those apps for content containing a particular keyword, or delve into Your Video to find movies to watch.

Turning to Freeview, there's an eight-day EPG with series link, while Time Shift lets you perform the usual playback gymnastics and a range of editing modes enables you to trim down or split your recordings. It's fairly flexible in all ways except one – despite the inclusion of two tuners you can't record two channels simultaneously, due to the fact that only one of them is linked to the hard-disk drive. That's a frustrating oversight, which is bound to deter many potential buyers.

Still, Samsung's onscreen presentation is as eye-catching as ever, particularly the main Home menu (which uses large animated icons) and the intelligently arranged EPG, which crams everything into a

single screen without seeming cluttered. DLNA content streams with minimum fuss, while Smart Hub is generally a cinch to use, although it's cumbersome to enter text – luckily it remembers passwords. Videos streamed over the BBC iPlayer app ran smoothly and the picture quality is surprisingly crisp.

We're also impressed by the BD-DT7800's Freeview picture quality – particularly HD, which dazzles the retinas with pin-sharp detail and bright, glossy colours. It's no mug with standard def either, upscaling the images without injecting any extra noise, although it does look a little ragged in places, an unavoidable consequence of the platform's low-bitrate broadcasts.

You can also convert Freeview pictures to 3D – another crossover with Samsung's Blu-ray decks, and this potentially opens up more 3D material, of variable quality though.

Highly talented

That said, it's features like this that make the BD-DT7800 one of the most interesting and talented Freeview HD PVRs to emerge in recent times, with the range of superb network functions being the main attraction. If Samsung could sort out the dual-channel recording issue, we'd have had an absolute must-buy on our hands ●

Tech Labs**Power consumption: Watts**

Standby: Put into standby, the Samsung drops to less than 1W in energy consumption...

Powered: ...but who ever turns their PVR off? This idling figure of 14W is more relevant

Onscreen: Menu**Smart hub:**

The hi-res interface of the BD-DT7800 will be familiar to owners of Samsung's TVs and Blu-ray players – it's slick and easy to use

**HCC VERDICT**

Samsung BD-DT7800
£280 Approx

Highs: Network features; design; picture quality; built-in wi-fi

Lows: Doesn't let you record two channels simultaneously; no Scart output

Performance: **1 2 3 4 5**

Design: **1 2 3 4 5**

Features: **1 2 3 4 5**

Overall: **1 2 3 4 5**

Against these
floorstanders, a small
screen can look dwarfed



Style towers over sonic substance

Mark Craven tries out a Sony home theatre system that looks the business

AV/CV

PRODUCT:
5.1 3D BD
theatre system

POSITION:
One of nine in
Sony lineup

PEERS:
Samsung
HT-D5530;
LG HX806PH;
Panasonic
SC-BTT775

Sony's BDV-E880, costs merely £400 and comprises a 5.1 Blu-ray home theatre system with 3D support and Sony's Bravia Internet Video Smart TV platform.

Inside the box you find a pair of 25cm-tall surround speakers, a long skinny centre-channel cabinet and two alarmingly large tower speakers for the front left and right. They dominated my cabinet-mounted 40in TV, so owners of smaller screens take note.

A downward-firing subwoofer, a connectable iPod dock and the main unit complete the lineup. The latter is a real design hit, with a sloping top panel and illuminated transport controls. It doesn't weigh much, but build quality seems solid.

The back of the player/amp features two HDMI inputs, ARC-capable output, LAN port, digital and analogue audio inputs and jacks for the FM antenna and dinky mic that Sony provides to assist speaker setup. Wireless 'net connection is possible via the front-mounted USB port, but requires the purchase of an adaptor. My tests were done wired.

Clunky start

I ran into a few problems with the BDV-E880 when running a set-top box through it, as none of the audio options are viewable on screen when you're using the HDMI inputs. You have to use the main unit's front display and the unintuitive handset.

But once I managed to get the system to output TV material in pure stereo sound, the audio from the gangly towers and the subwoofer proved adequate for telly addicts.

The performance boost over a contemporary flatscreen is immediately obvious, with the sub adding a decent low-end to the clean dialogue presentation. However, the sound

lacks the warmth and body you get from separate home cinema speakers, and quality begins to suffer as you ramp up the volume.

Moving from TV material to a BD makes operation far easier, as tweaks can then be done on the BDV-E880's screen. You can experiment with a variety of modes such as Hall, Night, Omni-Dir, and Sports. There's also a 3D Surround option for when you're watching 3D Blu-rays.

With the DTS-HD Master Audio mix of *Sucker Punch*, the surround speakers show their strengths, filling out the soundfield with high-frequency effects and matching the tonality of the tallboy fronts. But it is still very treble-heavy, and watching the movie's bombastic fight scenes became quite tiring on the ears. The sub, meanwhile, could do with tightening up and going louder, too. All these niggles result in a very average audio performance at best.

The BDV-E880's video performance is worthy of more praise, with BDs (both 2D and 3D) coming across with typical sharpness and colour vibrancy.

Nor can I find fault with the system's net functions. Bravia Internet Video is paradise for VOD lovers, with worthy services such as Moshcam (live music concerts) and Qriocity alongside the stalwarts of LOVEFILM, BBC iPlayer and YouTube.

Underwhelming

Overall, the BDV-E880 is somewhat unsatisfying. Stylistically, it's certainly one of the best home cinema options around, and the range of features on offer (bar the lack of built-in wi-fi) will turn any living room into a Smart environment. However, you could as easily get all those goodies from one of Sony's affordable standalone Blu-ray players, and pair it with a superior amp/speaker combo •

→ Specifications

3D playback: YES
Multi-region: NO R2 DVD and Region B Blu-ray
HDMI: YES 2-in, 1-out (ARC)
Component video: NO
Digital audio: YES 1 x optical input; 1 x coaxial
Dolby TrueHD/DTS-HD MA decoding: YES/YES
Profile 2.0: YES
Total amplification (claimed): 1,000W
Dimensions (main unit): 430(w) x 75(h) x 320(d)mm
Weight (main unit): 4.1kg
Features: FM radio; Auto calibration via supplied mic; Wi-Fi ready via supplied dongle; Ethernet; Bravia Internet Video; supplied iPod dock; DLNA streaming/rendering; Sound modes; SACD compatible; Sony PARTY mode



HCC VERDICT

Sony BDV-E880
Approx £400

Highs: Stylish design; solid video performance; packed with features
Lows: Audio performance lacks weight; not the easiest system to get to grips with

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5



Six shooter hits all its targets in style

A package that goes one speaker better than the rest, says **Ed Selley**

AV/CV

PRODUCT:
6.1 sub/sat
speaker system

POSITION:
One of five
home cinema
ranges in AE's
stable

PEERS:
Mordaunt Short
Alumni;
Monitor Audio
Vector

In the same week when all six *Star Wars* films appear on Blu-ray with a brand, spanking new six-channel soundtrack, Acoustic Energy has launched the Compact Neo 6.1 system. This £850 setup matches the existing Neo subwoofer with six Compact One speakers.

Having six identical speakers does achieve the home cinema holy grail endorsed by his beardiness, George Lucas, of placing identical speakers in all positions for seamless handover from position to position.

Finished in Vermont Walnut, each cabinet feels solid and looks smart, too. The silver panel is possibly a little sudden in an otherwise all-black system, but there are grilles for this situation. Wall mounts are also supplied, but these negate using the banana plugs with the sturdy binding post terminals on the rear. It could also result in some 'chuffing' from the rear-mounted bass port.

The subwoofer is the Neo V2 model that is also part of the more expensive Neo lineup. This is a sealed box design packing a 8.5in driver and 200W amp, along with a busy rear panel that incorporates notch and cut filters. These, coupled with the sealed design, make for a reasonably simple placement.

The identical wrap and similar appearance gives the Compact Neo 6.1 a fairly homogenous look. It is also an altogether more serious device than many similarly priced sub/sat systems and promises to give the Neo Compact some reasonable low-end heft. Indeed, match this relatively burly subwoofer with a 'satellite' that is also sold as a stereo speaker and you get something subtly different from the competition.

The right balance

Given the splendidly silly *Fast Five* to play with, these speakers make a

convincing case for themselves.

The huge amounts of gunfire, engines and shouting are separated effectively and it is easy to keep track of events on screen. The Compacts balance good detail levels with a smooth presentation that helps less well-mastered soundtracks sound cohesive.

Dialogue sounds rich and realistic. Pushed hard, the speakers will start to harden up slightly, but in any normal-sized lounge, the Compacts are capable of creating a room-filling sound. This is partly due to the use of fabric tweeters rather than the more common metal types used by much of the competition.

There is always a worry that the lack of a dedicated centre speaker will constrain dialogue, but this is not a problem. With a crossover set at 65kHz for all speakers, the handover between Compacts and subwoofer is very smooth and occurs at a point just about low enough to enjoy the benefits of omnidirectional bass.

Where this really comes into its own, is with music. With both multichannel and stereo material, the Acoustic Energys benefit hugely from the satellites' ability to handle all but the bottom octave of a music performance. The sub is not the fastest, but agile enough to make for an entertaining listen.

Overall, this array falls somewhere between a conventional sub/sat package and a larger speaker/sub combo, and combines many of the attributes of both. The Compacts are small enough to fit into most places, while offering a performance that dinkier models often can't match. So, as a cost-effective system that does equal justice to films and music, the Compact 6.1 has a great deal to commend it – as long as you don't mind having an odd-looking centre speaker •

→ Specifications

Compact 1

Drive Units: 1x 4in Paper cone mid/bass driver, 1x 1in fabric tweeter
Enclosure: Rear ported
Frequency Response: 65Hz-28kHz
Sensitivity: 88dB
Power handling: 100W
Dimensions: 150(w) x 220(h) x 200(d)mm
Weight: 3.2kg

Neo Sub

Drive Unit: 8.5in long-throw forward-firing
Enclosure: Sealed
Frequency Response: 26Hz-200Hz
On board power: 200W
Dimensions: 360(w) x 410(h) x 325(d)mm
Weight: 17kg
Connections: Stereo phono in and out; single LFE



HCC VERDICT

Acoustic Energy Neo Compact 6.1
Approx £850

Highs: Excellent sonics with film and music; good build

Lows: Not as attractive as some rivals; less flexible in mounting options

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

Sonic six-pack:

All the satellites use identical 1in tweeters and 4in midrange drivers

Like a wolf in sheep's clothing

Adam Rayner finds that the power behind this sub belies its cute size



AV/CV

PRODUCT:

Small subwoofer with auto-DSP

POSITION:

The smallest of the SPL range

PEERS:

Sunfire HRS8;
Paradigm UltraCube 10;
Jamo Sub 800

The white finish of SPL-800 Ultra makes it living-room friendly

Button it:
The remote offers four preset modes



If you have a copy of *Men in Black II* or even *Stuart Little II* on DVD then you have the 2001-2002 Academy Award-winning animated short, *The ChubbChubbs*. Its stars are some impossibly cute, fuzzy things that look like ducklings with noses like piglets – yet they turn out to be scary monsters with huge teeth and a terrifyingly large appetite.

And so it is with Velodyne's SPL-800 Ultra subwoofer. Our sample looks gorgeous in its white finish (there's a black one, too), sweet and unassuming with a cute remote control. But, once up and running in this case with Paradigm's MillenniaOne satellites, it delivers real might, weight, power and grip.

Demure aspect

It is a Mighty Atom by design, with a small cabinet gently tapered so it doesn't look totally '1990s Volvo'. The grille is a pale grey fabric and there's a polite blue LED display and up/down buttons for volume on the front where the driver plays from. And thanks to the IR input you can have full remote control by means of a wired infra-red 'eye'. This means you can put the woofer in a hidden-from-view location, such as under a table, and still have full control of it from your sofa.

That remote has four presets – Movies/Rock/Jazz/Games – and, although the manual offers advice as to which setting to use for each kind of music, it isn't made too clear exactly what the EQ curves of these

settings are. Also the 'Night' setting remains largely unexplained, but appears to be a volume/dynamics limiting setting that caps output.

And then there's that transducer. A 6.5in dished-inwards item, this is almost certainly supported to the rear by a conventional cone assembly. **What isn't standard is a huge fat surround that means this driver is really an eight-incher** (as sound does come off the surround), and to learn it has a huge motor and handles enough power to toast four slices of bread at a time.

You put the SPL-800 Ultra where you want it, plug in the tiny mic, place it where you sit and then press the EQ button on the handset. It then emits a dozen long bass sweep tones, listening to itself and setting a room equalisation curve according to the internal DSP. Simple.

Even better was my discovery that, as I spun up some 5.1 tunes and then multichannel Blu-ray soundtracks, the sub had racked the whole system up four notches.

Don't get me wrong, the MillenniaOne sub from Paradigm ought to win awards but is limited in power to hit the price point for the whole system. This SPL-800 Ultra subwoofer comes from the folks who make the DD18+, which broke things in my living room. So it's made to be a full-bore Velodyne, but engineered to be housed in rooms where just the looks of a DD18+ would be grounds for divorce.

Handle with care

Owners of the SPL-800 Ultra may still need a divorce lawyer on standby, though, as the level of sound it generates is mind-boggling. On the Blu-ray of *Blade Runner: The Umpteenth-But-Now-Ridley's-Favourite-Cut*, the gunfire in the interview took the room apart.

Rich and melodic with fabulous strength and power when used for music, the sub utilises that long cone excursion a treat. It does need careful setting, though, just because it is so potent and you want to get everything out of it. The mic-assisted setup helps, as does having the ability to alter it and adjust crossover, as well as level, from the sofa.

The SPL-800 Ultra also reaches down a long old way right into the fear register, without 'purring', which is incredible in a subwoofer of this size. Delicious and pretty, and then suddenly able to turn into a growling monster. Just like the ChubbChubbs

→ Specifications

SPL-800 Ultra

Drive Unit: 1 x 8in multi-layer Kevlar reinforced resin cone in die-cast aluminium; two-layer, high linearity 'Dual-Tandem' voice coil

Enclosure: Sealed, trapezoidal to avoid internal reflections

Frequency Response: 16Hz-240Hz in-room

On-Board Power: 1,200W RMS Class D

Dimensions: 280(h) x 267(w)

x 356(d)mm

Weight: 33Kg

Connections: Stereo LFE line-in and line-out on paired phono sockets and speaker level inputs on screw down posts. Also 3.5mm sockets for 12V trigger and IR input. Microphone socket (3.5mm) on front

Port of cool:
The IR input allows for out-of-line-of-sight control



HCC VERDICT

Velodyne SPL-800 Ultra
Approx £1,150

Highs: Potent output; room-filling; even picky loved ones will hardly be able to object

Lows: This level of engineering to stretch audio physics ain't cheap

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

The video and the fury

Barry Fox's rage is abated by this efficient, but pricey, video converter

Nifty gadget:
Provides HD pictures on the hoof via analogue component



AV/CV

PRODUCT:
HDMI-to-component video adaptor

POSITION:
Latest in the range, succeeds HDFury 1 and 2

PEERS:
Lektropacks VisionFC4

What price a device which converts a secure digital HDMI HD signal to insecure analogue component HD – for innocent connection of an HD receiver, BD player or games console to a legacy HDTV, computer monitor or projector which has no HDMI input, or perhaps-not-so-innocent hook-up to an HD recorder which takes advantage of the fact that analogue component video signals have no copy protection?

Either way the price is £190, the cost of the new HDFury3 'HDCP deciphering convertor'.

The size of a cigarette packet, the convertor has two HDMI v1.3 inputs and conventional analogue component outputs, with power supplied by a separate mains adaptor. The device connects as a simple plug-fit adaptor, and converts digital HDMI to analogue component 'on the fly'.

The HDMI inputs support Deep Colour and are manually or automatically switchable. A 3.5mm audio jack outputs either analogue or SP/DIF stereo PCM or Dolby/DTS 5.1, sourced from the HDMI feed.

The screen image is automatically centred for NTSC and PAL, with manual adjustment for horizontal screen position. Hidden DIP switch settings include colour depth upscaling and sync polarity inversion.

No PC needed

The device is entirely standalone and negates the need for a PC, as all the conversion is done inside.

All the HDFury devices are on sale at www.amazon.co.uk, (albeit with incorrect images for the HDFury3 device), with user reviews discussing their use alongside the Hauppauge HD-PVR for copying HDMI signals.

Indeed, Amazon cross promotes the Hauppauge box, which has component HD inputs and a built-in H.264 hi-def encoder. The latter digitises a 1080i or 720p component signal and sends it by USB cable to a PC for storage as an H.264 bitstream or conversion to AVCHD.

A low-cost blank DVD (4.7 GB) can record two hours of HD at 5Mbps. A BD player recognises the AVCHD disc as a Blu-ray disc and plays it at 1080i or 720p.

To check the claims made for HDFury3, I obtained an off-the-shelf sample and made test connections to a Sky HD satellite receiver/recorder, a Sony PS3 and a Panasonic 3D BD player. I used a Trulink 2 Port HDMI Splitter to compare the HD picture quality by direct HDMI connection and by component analogue conversion. There was little, if any, difference.

I also used a Hauppauge PVR, and budget Toshiba laptop, to make experimental captures and test AVCHD DVD burns of HD broadcasts, BD movie discs and online streaming services such as BBC iPlayer. Upscaled DVD video can normally only be carried as an HD signal by HDMI cable, but the unit happily converts it to HD component.

I was even able to make test recordings of side-by-side 3D broadcasts and play them back.

So is the sale of HDFury legal? Neither the HDMI Licensing LLC organisation nor the Digital-CP LLC, which licenses the HDCP copy protection used for HDMI connections, seems to have made a definitive statement.

Of course we're not advocating any unauthorised use; just checking whether HDFury3 does what it says on the tin. And it does ●

→ Specifications

HDMI: 2x HDMI v1.3 input with Deep Colour support

Component: YPbPr/YCbCr and VGA (RGBHV) video output

VGA: 10-bit analogue resolution female VGA output

Audio: Analogue and Digital Optical (S/PDIF 5.1 Dolby/DTS) through 3.5mm combo jack

Resolution: 480i-1080p NTSC and PAL

Features: HDCP support; built-in user-selectable output resolution limit settings; customisation settings available through DIP switch; automatic image centering in NTSC/PAL; manually horizontal screen position adjust; colour depth upscaling; sync polarity inverter; automatic SD/HD colour-space selection; supports compressed audio (5.1 Dolby Digital, DTS), software upgradeable

HCC VERDICT

HDFury3
£190 Approx

Highs: Does exactly what it says on the tin

Lows: Power greedy; uses an always-on 1A external power supply

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5



**Design first -
 A range that
 is ingenious,
 is aesthetically
 pleasing and
 of very high
 quality**

alphason

**Finewood
 Range**

FW1100/LO-B

EMT 1250CB-BLK



**QED Speaker
 cable - from 79p
 per metre**

**QED HDMI
 cables
 from £18.95**

QED

**AV4Home awarded QED
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 Award winning products backed by quality
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THE TOP 20



“..the majority of home cinema systems selected and installed on a DIY basis (that is without professional input) are performing at way below their optimum level.”

Choosing a home cinema system is a potential minefield that must be negotiated with great care or safely avoided by letting experts guide you. If you want to end up with a system that, as a minimum, meets your expectations in terms of picture and sound quality, reading magazine product reviews and choosing the recommendations, five-star favourites or best buys can only ever be part of the answer at best. Looking for the cheapest price and having a system delivered to your door, even with a 'knowledgeable' friend to help set it up, is a well-trodden path to disappointment.

There is a bewildering choice of components on the market today and also different ways in which components can be installed and connected together. Which sort of visual system do you go for? Projector and screen, or plasma, LCD or LED TV? 3D or non-3D? Full 1080p capability is now the only sensible choice but the appropriate source components, such as a Blu-ray player, need to be part of the equation. The sound performance of a system is also hugely important, even more so if you will be listening to music, or music DVD's, through

the same system. If so, you need an amp that approaches the performance of a decent 2-channel hi-fi amp, which is not that easy to find. Having an amp with the right inputs for the best connectivity is essential but you will also need to decide on a 5.1 or 7.1 speaker system, passive or active sub and, crucially, where they will be sited for the best results. In short, it's complicated and very fertile ground for getting it wrong.

ACHIEVING POTENTIAL

To select a system, you could choose a collection of 'Best Buy' components in the hope that they will be a great combination. Maybe, but probably not. You could buy a pre-packaged all-in-one system from one manufacturer. This is almost certainly not the best route either as you will miss out on enormous potential. From informal surveys conducted, it appears highly likely that **the majority of home cinema systems selected and installed on a DIY basis (that is without professional input) are performing at way below their optimum level.** To compound matters, most are also ill-matched to the room in which they are installed and are, in reality, the wrong system. Without considerable knowledge or experience, high quality home cinema is not a suitable DIY activity.

Our aim must be to buy a home cinema system that will provide an excellent picture

quality plus an audio delivery that will match, or even better, the commercial cinema experience. It must be exciting, reliable and deliver true value for money.

WHAT AND WHERE TO BUY

To ensure a home cinema system is right for you, where do you start? Here's an important tip ...**don't start with WHAT, start with WHERE.** There's only one way to give yourself the best chance of getting it right first time, and that's through a specialist AV dealer. It's possible you have preconceived ideas that put you off visiting one. Although you would welcome the advice and guidance, you don't know the technical jargon. You don't want to be talked down to. Your friend has said they only sell expensive gear and they're not interested if you don't have a big budget. They're expensive. These are just myths.

Most specialist AV dealers are running their business because, above all, home cinema is their hobby. They spend a large portion of their time comparing systems to get the best possible results. They know the component combinations which don't gel together and, conversely, they know the combinations which give the best performance within a given price range. Very importantly, they know how to get a system working to its optimum. But they all also know the system must suit **you**.

GUIDE

TO BUYING HOME CINEMA

LISTED BELOW ARE 20 OF THE BEST AV SHOPS IN THE COUNTRY.

They have been selected because they are known to do an excellent job in guiding customers towards home cinema systems that will provide years of superlative performance and total satisfaction.

BUYING OR BEING SOLD TO?

There are dealers around, web based or otherwise, who will sell you anything you are willing to pay for. They may be a bit cheaper but that's all they offer. Now there's a carefully selected group of long-established specialist dealers who are totally committed to putting the customer first. Their idea of 'selling' is to discuss your requirements, offer their advice, give you the best options, then play the systems for you and allow you to be the judge. You'll probably be surprised and, almost certainly, relieved to discover how easy it is to see and hear the differences between components and between systems. You'll be able to make a clear and informed decision about what to buy.

The story doesn't end there. These shops won't abandon you once you've put your hand in your pocket. They won't leave you to set up the system you've selected as best you can. They'll install it in your home, make sure it performs to its best, and ensure you're entirely happy with the way it works. Why? Because a high proportion of these dealers' custom comes through people who have bought from them before, either directly or by recommendation. It's vital to them to get it right for you.

GETTING THE BEST DEAL

Unless you've got money to burn, you'll be living with your new system for years. Most of these dealers offer much longer equipment guarantees than provided by the manufacturer, a very worthwhile benefit, but it also makes it in the dealer's interest to ensure high build quality and reliability. Maybe you could save a few pounds by buying piecemeal but you'll lose out on the overall package. As far as the dealers are concerned, they believe that taking care of their customers properly is a far better way of doing business than just handing over boxes.

OUR TOP 20 UK SPECIALIST AV DEALERS

SOUTH

Chelmsford RAYLEIGH HI-FI SOUND & VISION

216 Moulsham Street. 01245 265245
www.rayleighhifi.com

Colchester RAYLEIGH HI-FI SOUND & VISION

33 Sir Isaac's Walk. 01206 577682
www.rayleighhifi.com

Kingston-upon-Thames INFIDELITY

9 High Street, Hampton Wick.
020 8943 3530
www.infidelity.co.uk

Maidenhead AUDIO VENUE

36 Queen Street. 01628 633995
www.audiovenue.com

Rayleigh, Essex RAYLEIGH HI-FI SOUND & VISION

44a High Street. 01268 779762
Custom Install Dept.
01268 776932
www.rayleighhifi.com

Southend-on-Sea RAYLEIGH HI-FI SOUND & VISION

132/4 London Road. 01702 435255
www.rayleighhifi.com

Tunbridge Wells KENT HOME CINEMA

69 London Road, Southborough.
01892 535007
www.kenthomecinema.co.uk

LONDON

Ealing AUDIO VENUE

27 Bond Street. 020 8567 8703
www.audiovenue.com

N1 GRAHAMS HI-FI

190a New North Road. 020 7226 5500
www.grahams.co.uk

SW11 ORANGES & LEMONS

61-63 Webbs Road, Battersea.
020 7924 2040
www.oandlhifi.co.uk

SW20 O'BRIEN HI-FI

60 Durham Road.
020 8946 1528
www.obrienhifi.com

MIDLANDS

Coventry FRANK HARVEY HI-FI EXCELLENCE

163 Spon Street. 024 7652 5200
www.frankharvey.co.uk

Nottingham CASTLE SOUND & VISION

48/50 Maid Marian Way. 0115 9584404
www.castlesoundvision.com

Solihull MUSIC MATTERS

93-95 Hobs Moat Road. 0121 742 0254
www.musicmatters.co.uk

NORTH

Chester ACOUSTICA

17 Hoole Road. 01244 344227
www.acoustica.co.uk

York SOUND ORGANISATION

2 Gillygate. 01904 627108
www.soundorg.co.uk



BADA
the symbol of security

The majority of the above dealers are members of one or both of the major trade organisations, BADA or CEDIA.

STAR QUALITIES

VALUE FOR MONEY ★ ★ ★ ★ ★
SERVICE ★ ★ ★ ★ ★
FACILITIES ★ ★ ★ ★ ★
VERDICT ★ ★ ★ ★ ★

**TOP
20 UK**

SPECIALIST HOME
ENTERTAINMENT DEALERS

QUALITY



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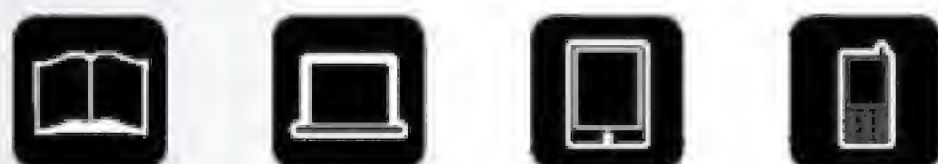


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The latest issue of T3 magazine is available now at iTunes, Zinio or at all good newsagents.



The humble digital recorder is probably the most essential piece of hardware under your TV. **Steve May** gets his timeshifting hat on with four Freeview hotshots priced at £225 or less

Lords of time and space

TVONICS DTR Z500HD

£225 Approx

Freeview HD-enabled 500GB PVR designed with a child-friendly, battleship build and access to BBC iPlayer

SAGECOM DTR67320T PVR

£150 Approx

This curved, silver slab may lack Freeview HD tuners, but it offers some useful archiving features and jukebox functionality



TOSHIBA HDR5010

£200 Approx

Toshiba's 500GB, twin Freeview HD PVR is styled to blend in with the rest of the hardware on your kit rack

HUMAX PVR-9150T FREEVIEW+ PVR

£130 Approx

Affordable twin-tuner model from the well-respected set-top box specialist

SD's last stand?

Sometimes high-definition just seems so... unnecessary



If you're looking for a workhorse Freeview timeshifter, then this humble Humax could fit the bill. It doesn't have a Freeview HD tuner, but that might not be an issue if you're (a) working to a tight budget, (b) looking for a digital recorder for a second room or (c) just need a digital tuner to feed an older TV, in order to give it life and purpose beyond the Digital Switchover.

Design wise, the PVR-9150T is pretty tidy and can be easily housed without rearranging the furniture. Admittedly, the rippled fascia design may not be to everyone's taste, but at least it looks distinctive. For added convenience, there're some on-body controls plus a CI card slot hidden beneath a fascia flap.

This is very much a standard-def box with a retro attitude. Instead of HD connections, you get a couple of Scarts, one a TV output and the other a loopthrough for a set-top box or similar gizmo. There's also an RS232 port designated for firmware updates (which we can pretty much guarantee will never be used). Eco warriors may also take solace from the fact that they can shut the unit down via a power rocker on the back panel whenever they pop down the road for some lentils.

It's driven by a large, unsubtle remote control, which at first glance looks like a dog toy.

Old-school GUI

As befits the somewhat dated specification, the user interface is suitably retro. I rather like its blocky demeanour, as it's not without charm. Installation is

straightforward, but channels are slow to populate.

Beneath the bonnet reside two standard-definition Freeview tuners, which enable two channels to be recorded simultaneously. You can schedule each from the programme guide in the time-honoured fashion, padding either the start and stop times to ensure you don't miss a beat. There's also an option to record single shows or entire series.

The hard drive is a relatively modest 160GB, equating to around 100 hours of standard-def TV. Go easy on the season linking because this PVR will fill up fast.

Naturally, you can view your recordings on time delay, perhaps to skip over the ads or finish the washing up. Unusually, the PVR-9150T sports an ad-skip button that jumps forward in your recordings at the touch of a button. The leap is adjustable between 15, 30, 60 or 120 seconds.

There's also a bookmarking feature, enabling you to rejoin a recording you failed to finish in a previous sitting. You can also PiP a second source, to keep an eye on a channel you're waiting to view.

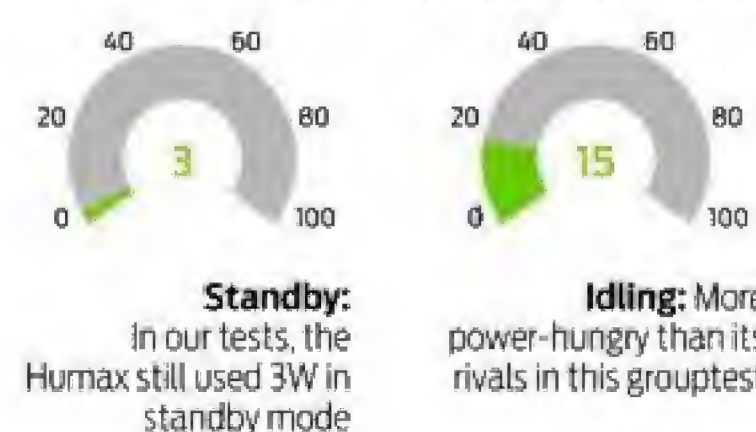
Recording quality is good, with little deviation from original transmissions. As a result, higher quality mainstream channels look perfectly acceptable while highly-compressed shopping channel fodder struggles for clarity.

No HDMI

As there's no HDMI output, the PVR-950T cannot scale images. So what comes out of the box is neat

→ Tech Labs

Power consumption: Watts



Onscreen: EPG



Lego land:

The old-fashioned GUI is in tune with the Humax's frill-free feature set, but easy to get to grips with

Woof:
Remote control or dog's toy?



576i on the rocks. If you're hooking it up to a flatpanel, it will scale the image accordingly.

One key aspect of any PVR is its operational noise. The good news is that this standard-def diva doesn't raise the roof. There's an onboard fan but it's whisper-quiet.

Overall, the PVR-950T is an unassuming, jobbing recorder. Given its low price it's difficult to complain about the lack of hi-def. If your online dating profile includes the words 'Quiet', 'slightly dull' and 'easy' the PVR-950T should be right up your street.

Low profile HD

This compact yet powerful PVR offers quite a lot for not too much

→ Tech Labs

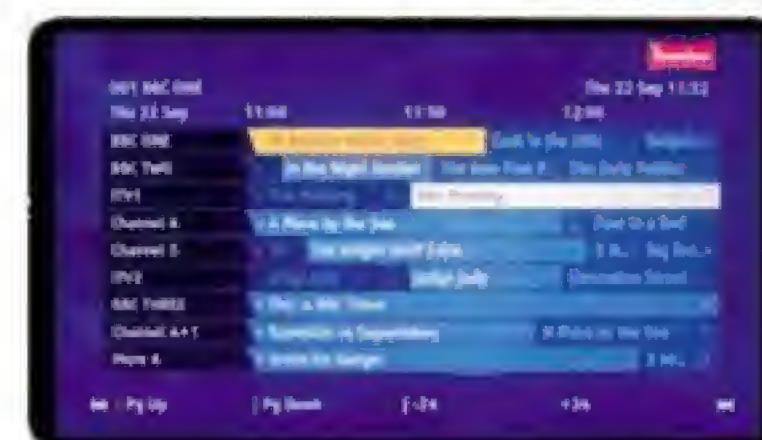
Power consumption: Watts



Standby:
Under 1W in standby,
but only after a
10-minute wait

Idling: An average
figure for a PVR

Onscreen: EPG



HD nudge:
The 8-day EPG will
notify you if there's
an HD version
of something you
want to record



TVonics' PVRs are nothing if not distinctive. With their compact, capsule-like bodywork, they're quite unlike any other digital recorders out there. The cabinet seems barely big enough to contain the 500GB drive.

Yet despite this, the back panel is packed with ports: there's a Scart connector, three HDMI (one out, two in), an optical digital audio output, USB, aerial loopthrough and Ethernet LAN.

The paired HDMI inputs enable you to use the DTR Z500HD as a switcher, which is convenient if your flatscreen TV is running out of jacks. The Ethernet connector is your gateway to VOD access in the form of BBC iPlayer – this was only recently added via a firmware update downloadable from the TVonics website. The update also adds support for Wi-Fi access via a dongle, although this wasn't tested.

There's also a secondary USB on the front panel. Both are still photo viewers (JPEG and BMP) and do not playback music or video files.

The Z500HD ships with an easy to use, rather generic zapper. There's no display on the box as such, just power and status LEDs which confirm if the unit is recording.

It takes no time at all to get the Z500HD ready for business. The PVR scans channels with considerable zeal, and the unit's menus are fast and responsive. The user interface is clean and shiny straight from the box, but you can also alter the colour scheme to suit your mood; there's a choice of blue, Sapphire, emerald, Onyx and green colour combinations.

Hopping from library to live TV is also intuitive. This is a PVR everyone should be able to enjoy; it's a good family choice.

Smart EPG

The TV guide is standard Freeview fare, giving an eight-day overview of what's upcoming, navigated by colour buttons that take you to and fro in 24-hour steps. When you select a regular SD programme to record and there's an HD alternate available, the system prompts you to timeshift that instead. There's also Series linking and Freeview's Try This recommendations. These are hard coded by the broadcaster and are not generated by some head-scratching algorithm that monitors your viewing habits. So they can be a bit random. Naturally you can also pause Live TV, a PVR feature mainstay. The size of the Z500HD's buffer can be adjusted between one, two and four hours.

With dual tuners, the Z500HD can record two channels simultaneously. That huge hard drive has enough capacity for around 70 hours of hi-def TV, or 250 hours of standard-def programming.

Other functional niceties include chasing playback and PiP. There's also a nifty Playlist function, which enables you to compile a list of recordings, which can then play out via Scart for archiving.

Timeshifted picture quality is terrific when it comes to the hi-def channels. With scads of detail, its images ping in a thoroughly satisfying way. SD recordings are more workmanlike. We also noted

interlacing problems that cause sporadic combing artefacts.

While this PVR lacks video picture tuning refinement, there is some basic audio control on offer. A Dynamic Range Control mode allows you compress loud noises (typically explosions etc) and boost dialogue. There may be users who find this useful for general viewing, although if you're planning to hook the Z500HD up to a home cinema system, this should be left Off.

Operational noise is low; the PVR never seems to raise a sweat, despite its compact size.

Overall, we like the DTR Z500HD a lot. It's a well-featured and versatile hi-def PVR that's intuitive to use. HDMI switching is a nice bonus and the 500GB HDD generous.

Plain Jane:

The TVonics handset is dull, but a doddle to use



Digital déjà vu

Toshiba's well-mannered hi-def PVR shares some DNA with its TVOnics rival



The HDR5010 is the most conventional-looking PVR in our group. While rivals tease with wacky designs, this Toshiba is slim and staid. It'll easily slip into a standard equipment rack, or stand atop other slice of AV gear. A clear channel display and bright blue/red power button decorate the fascia.

The HDR5010 sports two Freeview HD tuners, allowing two HD channels to be recorded at once to its chunky 500GB drive.

You don't have to look too closely to spot operational similarities to the TVOnics reviewed elsewhere. The HDR5010 similarly has two HDMI inputs, allowing it to function as a source switcher. You choose which feed to route through the unit by selecting the relevant HDMI input button on the remote.

Backside connectivity includes a Scart, a digital audio output, (non-functioning) Ethernet LAN and two USB ports. Neither USB offers media playback, but they will let you view your JPEG snaps

The HDR5010 is a doddle to use, always a key virtue for a digital recorder. When connected for the first time it makes short shrift of the channel tuning procedure and is soon ready to play.

The live pause buffer varies from 1, 2 and 4 hours. For most of us, a couple of hours will more than suffice, although the hard drive is so big it's no problem to set the cache on maximum. There's also picture-in-picture functionality.

The HDR5010's user interface is rather neat, overlaying your recorded stash in a translucent window.

There're plenty of library management options: you can filter recordings by file size or age, and if you want to prevent accidental (or malicious!) deletions you can lock them down and throw away the key.

Hoping between Freeview's Radio and TV functionality is made all the easier through dedicated keys. Thoughtfully, Toshiba offers a screensaver for plasma owners that's designed to help prevent possible image retention of station logos.

There are no surprises when it comes to basic functionality. Recordings can be made via the TV guide or live transmissions, and you'll get prompts if you inadvertently opt for a standard-definition show when there's a more beguiling HD version elsewhere. You can also Series Link whatever you want, while Playback can be started before a recording has even finished.

Awash with detail

Picture quality is very good, mirroring the fidelity of original transmissions. No prizes for surmising that this PVR looks its best with hi-def fare. Detail drips from the two BBC channels in particular. Once viewed, TV shows that hold extra interest can be archived to another recorder, albeit only in standard-def form; just lace up the HDR5010 to your archiving machine by Scar and hit Play/Record. There's no dubbing in HD.

Bonus niceties include an audio tweak that enables you to alter the delay variable between 0ms and 250ms (in 10ms increments), and Dynamic Range Control. The former may be useful if you have an older

→ Tech Labs

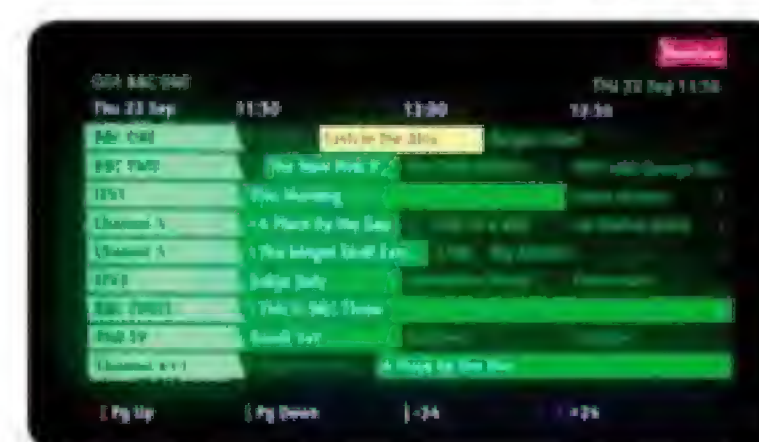
Power consumption: Watts



White screen: Standby mode draws only a minimal amount of power

Test footage: Only 1W more than the TVOnics unit

Onscreen: EPG



EPG envy: Toshiba's grid-based Freeview EPG is green. That's not necessarily a bad thing, but it may come as a shock

Double take:

Even the remote is similar to TVOnics' handset



flatpanel with latency/sync issues, however we'd advise leaving DRC well alone (particularly if you're routing the box into a home cinema system), as it just robs any sparkle from the audio track.

Operating noise is exceptionally low, and the HDD itself is well behaved, running cool even after prolonged usage.

The HDR5010 is a well-built, likeable Freeview+HD recorder that's highly suitable for use in home cinema systems. A large hard drive, convenience features and a polite disposition make it a great option.

Timeshifter and some

Not just a PVR, more a fully functioning media jukebox



This slimline Freeview+ recorder confounds expectations.

A cursory glance may suggest it has little to offer beyond basic standard-def timeshifting, as it doesn't have DVB-T2 tuners. However, Sagecom apparently believes that's no reason to deny folks additional functionality.

Slight, with distinctive rounded corners, the DTR67320T unselfconsciously plays the whimsical design card. The front panel display is a rather lurid orange. In standby the time is displayed, which then changes to channel number when the device is powered.

The rear panel offers two Scarts, an HDMI output, optical and coaxial digital audio outputs plus component video. If you select the latter, you lose RGB from the Scart.

There is also a USB port on the front fascia for media playback. Not only does this display high-resolution JPEGs, but it also plays MP3s with album art.

The remote control is a generic grey zapper. Keys need a determined press, but it gets the job done.

Installation proceeds at a leisurely pace, but without undue complication. Intriguingly, this little fellow can upscale its standard-def HDMI output to 1080i. There's a variety of output settings on offer: 576i, 576p, 720p and 1080i. It's not possible to scale the component output, though, which is fixed at 576i.

The electronic programme guide is also a cut above. It features a live TV window so that you can stay in touch with your chosen telly while you peruse the eight-day channel

listing. This can be scoured in either List or Grid mode.

Quiet and roomy

As with other PVRs in this group, the unit runs extremely quietly. With dual Freeview tuners on board, two channels can be recorded at once. The hard drive is a moderately large 320GB, enough for around 160 hours of TV (one hour of recording time equates to between 2 and 2.5 hours HDD space on this machine). The DTR 67320 automatically records a two-hour buffer. So, in addition to pausing live TV, you can shuttle back through the cache to find something you may have inadvertently missed.

The recordings library can be filtered by genre (movie, news, children, music, etc) or title. You can also create folders for better organisation. Video files can be renamed or merged, or even exported onto a USB device, as .TS files. Once moved to an external drive, I found I could play them back in a compatible media player without issue. This level of versatility really does give Sagecom an edge over rivals.

Picture quality is the best in this group when it comes to SD. While it may be tempting to immediately hit that upscaler, I should point out that my preferred viewing option was 576p. Although the onboard deinterlacer and scaler work well, they do tend to throw an emphasis on low bitrate artefacts.

The DTR67320T is not just a recorder, it's also a media jukebox, capable of playing JPEGs and MP3s, as well as import or export them to and from USB. Artist, album, title and

→ Tech Labs

Power consumption: Watts



Standby:
Under 1W in standby, but took around two minutes to power down

Idling: An identical idling figure to the TVonics box

Onscreen: EPG



Going live:
The EPG offers a live TV window, meaning you can browse channels without missing anything

Grey matter:

Not the most stylish of handsets around



genre metadata on MP3s can be edited, while images can be zoomed or rotated. I transferred over an MP3 album to the DTR67320 and, once resident, it could be accessed and played, complete with album art. Snaps can be played as a slideshow with musical accompaniment, be it an MP3 on the USB stick or on the hard drive or a Freeview radio station.

Overall, this Sagecom is exceptionally versatile. Feature wise, it leaps ahead of its group-test competition and image quality is good. Given the price, we rate this miniscule machine as a bit of a steal. >

Final standings

The PVR market is nothing if not diverse. Whether you're upgrading from a first-gen recorder, or buying your first PVR, there's a wide choice available, as our test revealed.

In our group, the Humax PVR-9150T pulls up the rear. It's cheap as chips and does a reasonable job, but no HDMI output makes it feel like a boot sale escapee.

The TVonics DTR Z500HD is altogether more contemporary. With twin Freeview+HD tuners, HDMI switching, BBC iPlayer and a 500GB hard drive it ticks all the boxes. On top of all that it's easy to use. Picture quality from HD channels is superb, although we did notice combing artifacts with SD recordings.

While it shares some DNA with the TVonics offering, Toshiba's HDR5010 offers something a little different. It has the same size drive and HDMI switching functionality, but typically sells for less. The more conventional design and whisper-quiet operation also make it a breeze to integrate



with an AV system. There was no BBC iPlayer at the time of review, though.

Both the TVonics and the Toshiba are put into the shade by Sagecom's remarkable little DTR67320T. It's only marginally more expensive than the entry-level Humax, but it packs shed loads more. What really swings our vote is its jukebox functionality: MP3 playback with album art from USB is cool

enough, but being able to copy music onto the hard drive is an unexpected bonus. And then the ability to export your video recordings, without DRM, onto an external drive is the icing on the cake. This PVR not only enables you to sneakernet shows around the house with ease, but also to migrate favoured shows to a NAS for long term storage. Outstanding value for money ●

1ST



HCC VERDICT

Sagecom DTR67320T
£150 Approx

Highs: Media jukebox functionality; video exporting to USB; quiet in use

Lows: Design won't suit everyone; generic remote

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

→ Specifications

HDD: 320GB
Tuners: 2 x Freeview+ DVB-T
HDMI: yes one out
Digital audio: yes
Component: yes
Dimensions: 310(w) x 46(h) x 199(d)mm
Weight: 1.75kg
Features: Series Linking; screensaver; USB playback for JPEG and MP3; media import to hard drive; video export to USB

2ND



HCC VERDICT

Toshiba HDR5010
£200 Approx

Highs: Good HD performance; HDMI switcher; large hard drive; extremely quiet

Lows: USB media playback for photos only

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

→ Specifications

HDD: 500GB
Tuners: 2 x Freeview+HD DVB-T2
HDMI: yes one out/two in
Digital audio: yes
Component: yes
Dimensions: 352(w) x 56(h) x 271(d)mm
Weight: 1.9kg
Features: Series Linking; 2/1 HDMI switcher; Ethernet LAN (currently unactivated); 2 x USB with photo viewer; screensaver

2ND



HCC VERDICT

TVonics DTR Z500HD
£225 Approx

Highs: HDMI switcher; solid HD recording performance; large hard drive

Lows: USB playback of photos only; some artifacts on SD

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

→ Specifications

HDD: 500GB
Tuners: 2 x Freeview+HD DVB-T2
HDMI: yes one out/two in
Digital audio: yes
Component: yes
Dimensions: 185(w) x 70(h) x 220(d)mm
Weight: 1.9kg
Features: Series Linking; 2/1 HDMI switcher; Ethernet LAN; BBC iPlayer; 2 x USB with photo viewer

4TH



HCC VERDICT

Humax PVR-9150T
£130 Approx

Highs: Simple to use; decent standard-definition image quality; pleasingly quiet

Lows: No HDMI output; no USB for local media playback

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

→ Specifications

HDD: 160GB
Tuners: 2 x Freeview DVB-T
HDMI: no
Digital audio: no
Component: no
Dimensions: 360(w) x 50(h) x 245(d)mm
Weight: 2.9kg
Features: Series Linking; RS232 port; Scart x 2; CI card slot; advertisement-skipping feature

Want a world without wires?

Chris Jenkins does. But is this the solution?

Wireless multi-room audio is a growing market, and Best Buy's house brand Rocketfish has joined in.

The system here consists of a 2.4Ghz sender unit, able to handle up to four input channels at either pre-out or speaker level; a two-channel line-level sender/receiver; a stereo wireless receiver/amplifier with output power, and a 22W active speaker designed for outdoor use.

You can configure the system in many ways, but the basic unit is the Wireless HD Audio Starter Kit, which costs £160. For this you get the wireless sender and receiver/amp, which you could use to add wireless rear speakers to a 5.1 or 7.1 system. Additional receiver/amps cost £100, the line-level sender/receiver is £50, and the outdoor speaker (which can run on batteries) and sender costs £180.

For multi-room audio applications, you could deliver audio

to up to nine receiver/amps or line-level sender/receivers, from up to five devices.

Highs

- Works on the 2.4 GHz band so it's efficient and not prone to interference. Range is around 15m for the starter package, 50m for the line-level sender-receiver.
- Audio transmission quality is fair, though slightly constricted and wouldn't satisfy the real audiophile.

Lows

- Unimpressive, plasticky construction makes you wonder whether compromises have been made to bring the system down to this relatively affordable price point.



Bespoke: You can add to the starter kit (left) with additional senders and an active speaker

HCC VERDICT

Rocketfish Wireless Music System
£160 Approx

Overall: **1 2 3 4 5**

LOGITECH Z906 → £330 Approx → www.logitech.com

Not very PC at all

Mark Craven enjoys a speaker system with bite

Logitech is a well-respected PC peripherals brand, but this speaker package can easily double as a home cinema system for those with small rooms. It does, after all, sport THX-certified speakers and claim 500W of welly.

Source connection is all done around the back of the subwoofer, where you'll find three digital audio inputs (two optical and one coaxial), plus analogue stereo and 3.5mm. A separate console (with hideous orange lights) is where you can switch between inputs and

audio modes. It's controlled via a small remote.

Highs

- Like previous Logitech THX systems, the Z906 is a strong audio performer. The 160W, 8in subwoofer offers considerable low-end authority, the surround speakers are surprisingly robust, too.

- The build quality is hard to fault, and the way the satellite cabinets

angle upwards slightly is a neat touch.

- The Stereo 4.1 mode, which

replicates the front left/right speakers across the rear, is great for late-night TV watching.

- The console unit makes switching between modes and sources pretty painless.

Lows

- With no HDMI inputs, you're forced to forgo lossless DTS-HD MA and Dolby TrueHD mixes – and that stops me giving the Z906 a wholehearted recommendation.

- The techie styling will look out of place in some people's living rooms.

- You're probably not going to want to listen to your collection of classical music CDs through it.



HCC VERDICT

Logitech Z906
£330 Approx

Overall: **1 2 3 4 5**

In Brief

Dead Island
Deep Silver
£50 Approx



This survival horror is a real treat for gore-crazed gamers. Its open-world locales are stunningly realised, the melee combat feels suitably weighty, the experience system rewards exploration and (refreshingly) it's a great play in both single- and multiplayer. It's only the glitchy graphics that spoil things a touch.

1 2 3 4 5

Finishing touches

Adrian Justins trawls the shelves for those must-have home cinema extras



ALPHASON DESIGNS ELEMENT

Approx £350

Choosing the right TV stand from a range as extensive as Alphason Designs' just got that much harder with the introduction of this glamorous new model. Part of the company's Design First collection of premium stands targeted at contemporary-themed households, the Element features a monolithic design and comes in two sizes. The Element 1250mm accommodates screens up to 52in and features remote control-friendly high gloss black doors. It has hidden castors, integrated cable management and space for a 4-gang power block that means the stand can be shoved right up against a wall. Its smaller brother, the £250 Element 850mm, is suitable for screens no bigger than 37in.

www.alphasondesigns.com

HCC VERDICT

Could outdo your TV in the design statement stakes

VITA AUDIO RUARK RED R1 MKII

Approx £180

Most home entertainment kit is finished in black, which can look a tad monotonous and doesn't have the visual impact of this limited edition DAB radio, launched to mark the fifth anniversary of British hi-fi brand Vita Audio. Finished in high gloss lacquer, the 'Ruark Red' has a nominal 9W power output with 3.5in custom-made drive units. It has a high-contrast large format display with auto adjustment and a rotary dial control with soft illumination. It's designed for tabletop use but can be easily transported using an optional carry case and rechargeable battery pack.

www.vitaaudio.co.uk

HCC VERDICT

If only all radios looked as good



SENNHEISER RS220

Approx £250

Wireless headphones provide greater freedom of movement, but are subject to interference and tend to use a lossy transmission system that degrades the signal. Sennheiser addresses these problems using a stable 2.4GHz connection to send uncompressed audio from the transmitter to the cans. A special frequency spreading process means that interference should not affect the sound quality as the data is transmitted several times. The cans have a range of 100m and two sets can be served by one transmitter. Connectivity includes analogue, digital optical and digital coaxial inputs on the transmitter and battery power is quoted as being up to eight hours.

www.sennheiser.com

HCC VERDICT

Love those digital inputs



ELGATO EYETV MOBILE

Approx £100

Few people – if any – know how to deliver live broadcast TV to a computer as well as Elgato, so it comes as no surprise that the company has introduced a device for bringing digital TV to the iPad 2. The battery-powered (charging is made using a micro USB connector) device connects to a telescopic aerial at one end and clicks in to the iPad's notorious Apple connector at the other. Elgato's elegant interface pops up on screen and provides access to Freeview's standard-definition channels. It also works as a PVR with basic pause and record functionality. Compatibility is limited to the iPad 2 at present, but may be extended to other Apple devices running the iOS 5 operating system..

www.elgato.com

HCC VERDICT

Works well – assuming you have a decent signal



TOSHIBA STOR.E TV PRO

Approx £TBC

Toshiba thinks its Stor.E TV Pro is just the ticket for a plug and play transformation of a dumb TV to a Smart one. Featuring a fresh-looking GUI, this wi-fi (802.11n) multimedia console provides internet browsing with Adobe Flash compatibility, full HD movie playback and access to Toshiba's Places online gateway. It comes with a specially designed remote control with full QWERTY keyboard and trackpad and connects via HDMI to your screen. Other connections include: an Ethernet port, a trio of USB 2.0s and a 2-in-1 card reader for playing back photos, video and music.

www.toshiba-multimedia.com

HCC VERDICT

Is this the missing link in Toshiba's smart TV chain?

Clips...

Small items that will make a big difference to your system

Belkin N600 router

£80 approx



Designed for video streaming and gaming, this 300Mbps wireless router simultaneously operates on

2.4GHz and 5GHz bands. It has a USB port for wireless printing or backing up to an external hard disk and comes with built-in apps for printing, self-healing, video transference and file back-up.

www.belkin.com/uk/k

Kimber HD 19e HDMI cable



£107 Approx

Not all E numbers are bad it seems, especially if

home networking and HDMI are involved. Kimber has added an Ethernet channel to its original HD 19 cable, which uses heavy gauge silver-plated conductors to ensure the transfer of ultra-wide bandwidth audio, video and ethernet signals is unhindered.

www.russandrews.com

Bang & Olufsen BeoSound 8

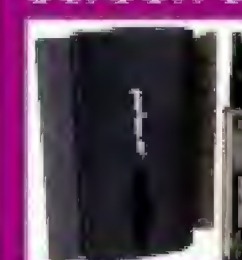


Approx £900

B&O has revamped its best-selling iPod/iPad dock

with a range of new colours. Music fans can now spec the designer speaker in red, orange, yellow and silver as well as the original black and white finishes.

Peerless CL-SCA300 screen cleaner



Approx £15

When cleaning a flatscreen it's imperative to use a non-scratch

microfibre cloth. Even better, avoid alcohol, which can also cause damage. One solution is this cleaning gel which comes in a 30ml bottle, complete with a dust-removing brush and screen-friendly microfibre pad.

www.peerless-av.co.uk

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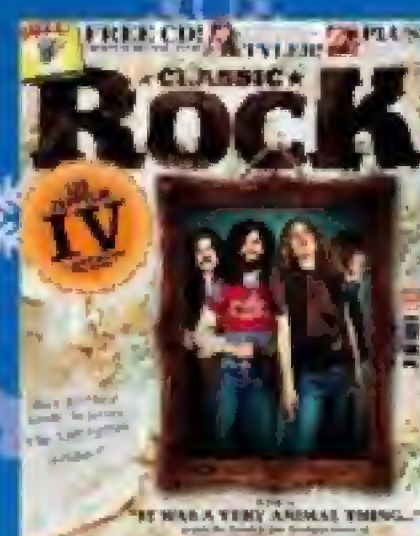
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PLAYBACK

→ **Software highlights** X-MEN: FIRST CLASS House-shaking boomer
 BEN-HUR This chariot's on fire in high-def JURASSIC PARK ULTIMATE TRILOGY Spielberg upped the
 ante for SFX, but are all parts as good as the original? BLITZ Cockney capers with Jason Statham
 → **Opinion** DOWNLOAD CENTRAL Games on the cloud? Why not? AND MUCH MORE!

God!

Thor – Triple Play Paramount Home
 Entertainment All-region B BD

Is Marvel's
 newest
 superhero up
 to Iron Man's
 standards?
 See [page 90](#)

HCC Ratings key

Thor's hammer	1 2 3 4 5
Hammer horror	1 2 3 4 5
Hammerhead	1 2 3 4 5
Hammersmith	1 2 3 4 5
MC Hammer	1 2 3 4 5



'Seriously. I'm not letting you go out dressed like that'

Sixties-cool superheroics

A panoramic DTS-HD MA 5.1 soundfield brings this movie right into your viewing room



→ X-Men: First Class

Following the crippling one-two punch of *X-Men: The Last Stand* and *X-Men Origins: Wolverine*, time was surely running out for this superhero franchise. The only thing that could possibly turn things around was a complete reinvention of the series.

Enter Matthew (*Kick-Ass*) Vaughn, who finally got his chance to tell his *X-Men* story with this outing. Set against the backdrop of the Cuban Missile Crisis, this origin movie for Professor X (James McAvoy) and Magneto (Michael Fassbender) mixes '60s-style, James Bond-cool and espionage with over-the-top superheroics to impressive effect. It's just a shame that this '60s styling carries over to the script's treatment of its female characters – most of whom end up in their bra and pants at least once in the film.

Chris Jenkins: This new *X-Men* film certainly looks first class on Blu-ray. The AVC 2.40:1 1080p encode is full of the kind of high detail levels, refined sharpness, saturated colours and stable black levels we've come to expect from today's blockbusters. On a big screen you'll be left marvelling at the fine textures woven into the material of the costumes the team dons for the finale showdown. Primary colours pop when necessary, but the encode is also capable of demonstrating incredibly natural and

subtly graduated fleshtones. Add a complete lack of DNR and edge enhancement, and what more could you possibly ask for?

Mark Craven: *X-Men: First Class* also delivers the goods in the audio department thanks to an astonishingly rich and potent DTS-HD MA 5.1 soundtrack. Dialogue is delightfully nuanced and Henry Jackman's wonderful score sounds tonally perfect, but what really makes this soundtrack sing is its aggressive use of the full 360° soundfield. Every location feels completely alive and part of a cohesive world, thanks to the impressive sound design. And when the action heats up... Well, it's safe to say that the mix's booming bass and impactful dynamics could well lead to some heated discussions with your next-door neighbours.

Anton van Beek: The seven-part *Children of the Atom* is a frank and open 70-minute dissection of the film's production, from its origins, through casting to its 007 influences. Fans of Henry Jackman's score will be thrilled to find that an isolated version is included, although only in lossy DD5.1. Also included on the disc are 13 deleted/extended scenes and an interactive guide to 18 of the franchise's mutants (more can be accessed via BD-Live – and there's also the promise of exclusive online behind-the-scenes content on the service). The set also includes a DVD and Digital Copy of the film.



HCC VERDICT

X-Men: First Class – Triple Play → 20th Century Fox → Region B BD → £25 Approx

We say: This superhero stunner definitely has the X factor

Picture: **1 2 3 4 5**

Sound: **1 2 3 4 5**

Extras: **1 2 3 4 5**

Movie: **1 2 3 4 5**

Overall: **1 2 3 4 5**



Blitz

Lionsgate → Region B BD
£20 Approx



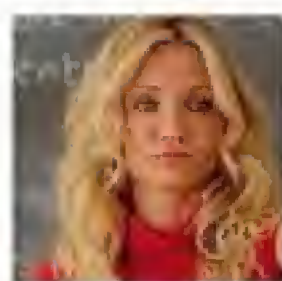
Jason Statham as a sexist, violent South London copper sounds like it should be a lot of fun - only

Blitz doesn't play out the way many will expect. It's more character-driven, with plenty of sub-plots, and a curious lack of car chases and fist fights. Lionsgate's BD is a little flat, too; the DTS-HD MA 5.1 mix only really gets going during the techno-infused soundtrack, and the 2.40:1 visuals show a few problems in low-lit scenes. The extras are nothing more than deleted scenes, and suffer from the lack of accompanying commentary. One for Statham completists only. **MC**

1 2 3 4 5

Bad Teacher:
School's Out Edition

Sony Pictures → All-region BD
→ £20 Approx



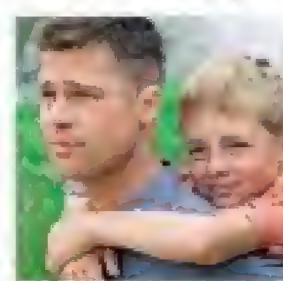
This Cameron Diaz vehicle clearly bases itself on the brilliantly bitter *Bad Santa*, but never truly hits the

mark. But the sharp characterisations and performances do partly make up for the thin setup and occasionally misfiring gags. This Blu-ray features a slightly longer and (apparently) ruder cut of the film, served up with an attractively detailed and warmly coloured AVC 1.85:1 1080p encode and front-heavy DTS-HD MA 5.1 soundtrack. Extras include a BD-exclusive interactive yearbook (with cast outtakes) and a gag reel. **MC**

1 2 3 4 5

Tree of Life

20th Century Fox → Region A/B
BD → £23 Approx



Described by many as Terrence Malick's response to *2001: A Space Odyssey*, this movie is by far the

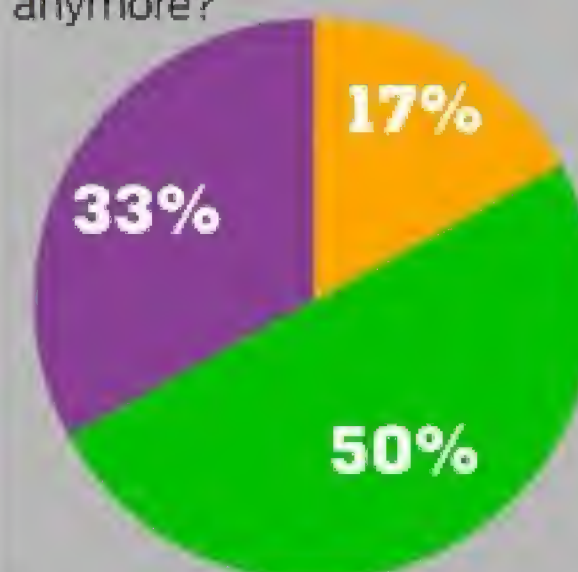
director's most impressionistic film to date - rejecting a traditional narrative structure in favour of musings on the nature of ourselves and the world we live in. It's incredibly compelling and delivers some of the most astonishing 1080p visuals ever to grace a home cinema (thanks to the peerless AVC 1.85:1 encode). The disc recommends you 'play it loud' to get the best from the DTS-HD MA 7.1 audio. Extras include a fascinating 30-minute look at the film and the man behind it. **AvB**

1 2 3 4 5

We asked you...

How do you feel about George Lucas tweaking the *Star Wars* films yet again for the Blu-ray release?

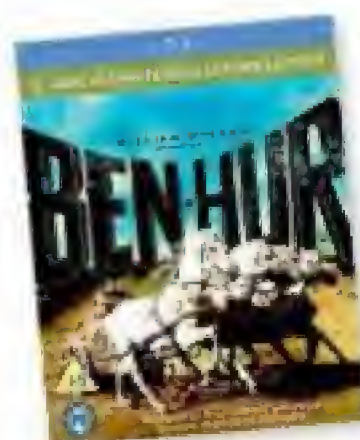
- It's fine, there's always room for improvement!
- For the love of Leia, leave 'em alone!
- Does anybody really care anymore?



Results of poll from
www.homecinemachoice.com

Hur today and Hur tomorrow

Enduring biblical epic finally gets the high-definition colour clean up it deserves



→ Ben-Hur

The undisputed king of the biblical epics, William Wyler's *Ben-Hur*, remains as fresh, exciting and spectacular as ever. Charlton Heston's son Francis sums up the film's success best in one of the

accompanying extra: 'Ben-Hur, in a sense, I think was the first modern epic. It was realistic. It was, at times, gruesome. It had characters with flaws in them. It was complex. It was character-driven, not event-driven'. And the film's lasting impact can be felt across the past half-century of cinema.

Chris Jenkins: Warner already has an impressive track record when it comes to remastering the 'crown jewels' in its vast catalogue of films for Blu-ray, and this stunning restoration only serves to enhance that reputation even further. Created from an 8K scan of a meticulous frame-by-frame restoration of the original 65mm camera negative, the Blu-ray's AVC 2.76:1 1080p encode is flawless. Previous colour temperature issues have now been completely resolved (the horses pulling Heston's chariot are now a brilliant white rather than the dirty yellow of the previous DVD version), fine detailing is exquisite, film grain is perfectly rendered and there's not a trace of print damage to be found anywhere. I can't find a single fault with this Blu-ray presentation - it's as good a hi-def encode as you'll ever see, regardless of the film's age.

Mark Craven: Your appreciation of Ben-Hur's DTS-HD MA 5.1 mix will ultimately depend on what you expect from a film of this vintage. The soundtrack hasn't been completely reworked to make it feel like a modern movie. Instead, the mix



The Roman equivalent of a Range Rover

remains primarily focused on the front speakers, with the rears only occasionally employed for anything particularly dynamic such as panning effects and crowd noise during the chariot race (Chapters 46-49) - and even here the limitations of the original elements still make their presence felt. Instead, the true strength of the remixed audio is its rich tonal range and pristine clarity.

Anton van Beek: This three-disc set backs up the film itself with an impressive roster of supplementary material. Accompanying the movie across the first two discs are a commentary by film historian T. Gene Hatcher and Charlton Heston and an isolated score (presented as Dolby Digital 2.0). The final disc kicks off with a new 78-min doc, *Charlton Heston & Ben-Hur: A Personal Journey*, that's packed with wonderful home movie footage and reminiscences from Heston's family and acquaintances.



HCC VERDICT

Ben-Hur: 3-Disc Ultimate Collector's Edition
Warner Home Video → All-region
BD → £25 Approx

We say: Absolutely unmissable

Picture: 1 2 3 4 5

Sound: 1 2 3 4 5

Extras: 1 2 3 4 5

Movie: 1 2 3 4 5

Overall: 1 2 3 4 5



Sam took a wrong turn in the pet shop

Toothsome triple-pack

The monster-mash trilogy transfers to hi-def and cleans up well

→ Jurassic Park: Ultimate Trilogy

Steven Spielberg's 1993 smash truly revolutionised cinema. Seamlessly mixing CG visuals and life-size models, this bigscreen adaptation of Michael Crichton's sci-fi bestseller convinced audiences around the world that dinosaurs still walked the Earth, and in the process transformed the visual effects industry almost overnight.

The sequels don't hold up quite as well. *The Lost World: Jurassic Park* features some fantastic dino action, however, it's almost completely derailed by the final act, which drops a T-Rex in San Diego for no rhyme or reason, simply because Spielberg presumably thought it was what everyone would want to see.

Spielberg's absence behind the camera on *Jurassic Park III* is telling in its lack of wonder and genuine thrills. And while the new dinosaurs are pretty impressive, the film makes the fatal mistake of killing off all of its expendable characters in the first act, meaning there's simply no real dramatic tension in the rest of the film.

Chris Jenkins: *Jurassic Park* comes to Blu-ray with a VC-11.85:1 1080p encode that runs rife with a particularly thick grain pattern. While this might not appeal to those who expect all of their Blu-ray films to look like a Pixar animation, it should please those cinephiles who like their films

to look like actual films (something Universal has failed to do with its catalogue releases more often than I can count). But even some of these grain lovers might be surprised by just how pervasive it becomes in some low-light scenes – especially those inside the control room when the lights have powered down, where it is so heavy it often obscures fine detailing altogether.

Nobody will be able to complain about the disc's colour reproduction. It truly is excellent, making the most of the vibrant greens of the island's foliage and the bold red and yellow of the Jurassic Park branding. Detail levels impress, even if they often do serve to highlight some rather murky skin textures on the CG dinosaur models (but for me, this feels far more realistic than the pin-sharp textures of the CG dinosaurs in the third film).

There are some telltale signs of edge-enhancement on show in brighter scenes, such as the halo in the medium-shots of Sam Neill as he terrifies a kid with his Velociraptor story (Ch 2), but even this is only a minor issue, and could well be endemic of the source material rather than the encode itself.

The Lost World: Jurassic Park features a much more muted colour palette and a more refined grain structure, both of which help the VC-11.85:1 1080p Blu-ray encode serve up a slightly improved picture experience over its predecessor. Delineation is clearer throughout the film, and



detailing never really feels obscured by the grain structure, no matter how dark some scenes get (which is a bloody good job considering how much of the sequel takes place at night).

Unsurprisingly, as the newest film of the three, *Jurassic Park III* features the strongest of the VC-1 1.85:1 1080p encodes. Whether it's something as simple as a close-up of Sam Neill's face (Ch 3) or a CG-rendered Brachiosaur head (Ch 15), the disc's fine grain combined with the generally brighter, clearer and sharper visuals (real and CG) register increased detailing and vibrancy throughout the film's running time.

Mark Craven: The history of Spielberg's original *Jurassic Park* is tied to that of DTS, having debuted the multichannel audio technology at cinemas and then again on LaserDisc. Couple that with the fact that many people's memories of the film are intrinsically linked to its audio (primarily the booming bass of the T-Rex footsteps and the vibrating cup of water) and it's hardly surprising that there's a huge amount of expectation surrounding the new DTS-HD MA 7.1 mix gracing the film's Blu-ray debut.

Thankfully, this new Blu-ray incarnation serves the film incredibly well, surrounding you with the sound of insects and jungle noise from the very start. Surprisingly, the build-up to the T-Rex attack (Ch 11) isn't quite as LFE-heavy as you might expect, at least not until the point where the dinosaurs appear on screen, where every roar, growl and footstep bristles with incredibly potent throbbing bass.

The film's other dino-centric audio showcase is the Gallimimus stampede (Ch 14). The sequence starts with the slow build of rumbling footsteps in the rears, and before long it sounds like you're right in the heart of the stampede with creatures knocking into one another as they flee past you on all sides. **It's an impressive piece of sound design that lends genuine weight and mass to the CG dinosaurs** seen onscreen, and the precision of the steering around the full speaker setup shows just what the extra audio channels in the remix bring to the film.

The subsequent films are just as impressive when it comes to their DTS-HD MA 7.1 soundtracks. Superbly rendered atmospheric effects really bring the island settings to life in both (and, in the case of *The Lost World*, the bustling streets of San Diego), and there's no shortage of scenes to use to demo your audio setup. Personal favourites include *The Lost World*'s T-Rex attack (Ch 9-10) where, in addition to the creatures themselves, there's the sound of the utensils falling across the soundfield as the trailer hangs over the cliff, and the precision in the splintering glass leading up to the window breaking. And over in *Jurassic Park III* there's the reverberating footsteps on the metal walkways and Pteranodons flying past during the exploration and escape from the aviary (Ch 14-15) to savour in 7.1.

Add to that the perfectly balanced and precisely positioned dialogue reproduction across all three films, plus the rousing rendition of John Williams' memorable music, and there's not a



HCC VERDICT

Jurassic Park: Ultimate Trilogy → Universal Pictures → All-region BD → £50 Approx

We say: This blockbuster dino-fest is a monster hit on hi-def visuals and sound

Picture: **1 2 3 4 5**

Sound: **1 2 3 4 5**

Extras: **1 2 3 4 5**

Movie: **1 2 3 4 5**

Overall: **1 2 3 4 5**

single aspect of the trio of remixed soundtracks that puts a foot wrong.

Anton van Beek: Each film comes bundled with a bumper crop of goodies, the vast majority of which will be familiar to fans who picked up the earlier DVD releases. Among this extensive collection of repurposed material are 15 archival featurettes, numerous behind-the-scenes vignettes (ranging from *Location Scouting* to a *Tour of the Stan Winston Studio*), art and photo galleries, storyboards, trailers, animatics and VFX showreels, plus a couple of deleted scenes for *The Lost World: Jurassic Park* (frustratingly, the other well documented deleted scenes from the trilogy are still absent in this set), plus a dozen *Dinosaur Turntables* and a commentary from the special effects team for *Jurassic Park III*.

As far as new material goes, it basically boils down to the all-new *Return to Jurassic Park* six-part retrospective documentary looking back at the entire trilogy. This might not sound too impressive, but with a total running time in excess of two hours and considering the amount of production detail they go into, the wealth of enlightening (and sometimes surprisingly honest) interviews on offer and the sheer weight of rare behind-the-scenes footage included, they add up to a shocking comprehensive look at the making of the trilogy (and the theme park ride, which is featured at the star the documentary about *Jurassic Park III*). Fittingly, the last doc ends with a short tribute to author Michael Crichton and SFX legend Stan Winston, both of whom sadly passed away in 2008.

Beyond the documentaries, the only other new features are the obligatory *My Scenes* and BD-Live links. >



Get out claws: The dino FX look good in hi-def



Does anyone
have a tin
opener?



Inspector Norse

Gods move into another sight and sound dimension in Branagh's epic

→ Thor: Triple Play

Grand in scope and packed with spectacle, Kenneth Branagh's *Thor* doesn't quite stack up against the very best superhero movies, but it's a blast nonetheless.

While the rest of the films set in the Marvel universe have at least kept their heroes relatively grounded, *Thor* is a much riskier proposition in its mix of Norse mythology and God-like beings inhabiting another dimension. In theory, it simply shouldn't work. But Branagh brings a steady hand to the material, never taking it too seriously, but never undermining it either. Add in some charismatic performances and breathtaking action scenes, and you can count us amongst the legions of fans looking forward to Thor's return to the big screen in next year's superhero mash-up, *Avengers*.

Chris Jenkins: The film splits itself across three distinct locations, two of which are handled extremely well by the Blu-ray's AVC 2.40:1 1080p encode (we'll get to the other one later). The New Mexico landscape looks wonderfully bright, clear and natural, full of rich earthen tones and fine textures. Even more impressive, though, are the gleaming spires and halls of Asgard, with their crisp delineation and lavish colours. The only failing comes when the action moves to the perpetually dark world of Jotunheim, where the impeccable fine textures and detailing evident elsewhere are occasionally scuppered by some

obviously crushed blacks and the rather flat look caused by its limited palette.

Mark Craven: *Thor*'s DTS-HD Master Audio 7.1 soundtrack is a skilfully engineered track that surrounds the listener with positional sonics, while never overwhelming the natural dialogue presentation or Patrick Doyle's triumphant score. Scenes such as the battle with the Frost Giants in Chapter 3 and the face-off with the Destroyer in Chapter 12 are undoubtedly the best examples of the mix's incredible range and effortless dynamics, but whichever Chapter you spin up, you're bound to be bowled over by this truly God-like mix.

Anton van Beek: While unlikely to rock your world, Marvel's *God of Thunder* hits Blu-ray with a perfectly respectable roster of bonus goodies. Kenneth Branagh provides a fascinating and extremely informative solo-commentary for the film itself, and then performs the same duty in an optional track available on a collection of 11 deleted scenes (25mins).

More behind-the-scenes info can be gleaned from a collection of seven featurettes, covering such diverse topics as casting, the creation of Mjölner (Thor's hammer) and scoring the movie. There's also a brief 3min teaser for next year's *Avengers* movie and the first of a series of Marvel One-Shot shorts about S.H.I.E.L.D. agent Phil Coulson (Clark Gregg), which help tie the various movies together. Rounding out the package are a trio of trailers, plus a DVD and Digital Copy of the film.



HCC VERDICT

Thor: Triple Play → Paramount → All-region BD/R2 DVD → £25 Approx

We say: Marvel's latest superhero smash cuts a truly God-like figure on Blu-ray

Picture: **1 2 3 4 5**

Sound: **1 2 3 4 5**

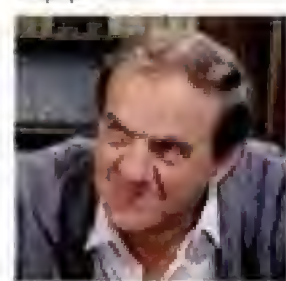
Extras: **1 2 3 4 5**

Movie: **1 2 3 4 5**

Overall: **1 2 3 4 5**

The Cat O' Nine Tails

Arrow Video → Region B BD → £23 Approx



The second of Dario Argento's 'animal trilogy' shows signs of improvement in Arrow's hi-def

presentation, but still falls short of Blue Underground's US release. The main problem is that, while less noticeable than before, the grain on Arrow's latest AVC 2.35:1 encode still exhibits some artefact-like picture anomalies. It's by no means a write-off, but Arrow clearly still has some work to do in this area. There are no such qualms with the LPCM 2.0 audio (in Italian and English), although extras are few – just a trio of interviews and the (admittedly funky) trailer. **AvB**

1 2 3 4 5

Heavenly Creatures

Peccadillo Pictures → All-region BD £23 Approx



Peter Jackson mixes gore with fantasy in this spellbinding tale of love and

murder based on the infamous 1954 Parker-Hulme case. While not perfect, this Blu-ray does a better job than any other home release with its warmly coloured AVC 2.35:1 1080p encode (although the heavy grain does look a little digital in places). The audio is sadly DD2.0 only, and paltry extras include a 30min retrospective about the film. **MC**

1 2 3 4 5

The Aviator

StudioCanal → Region B BD £23 Approx



This 2004 Howard Hughes biopic often feels like Scorsese's forgotten film.

But this Blu-ray release offers another chance to re-evaluate it is it. The AVC 2.40:1 1080p encode is simply magnificent, doing an impressive job with the film's red-and-blue-tinted 52mins opening (that replicates the two-strip Technicolor film of the period). Similarly impressive is the DTS-HD MA 5.1 audio, which handles surround effects as easily as the dialogue. **AvB**

1 2 3 4 5

The Others

StudioCanal → Region B BD £23 Approx



Amenábar's decade-old chiller is proof that the very best horror films thrive on the power

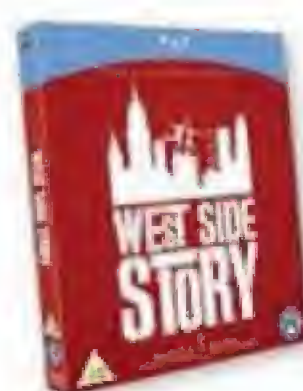
of suggestion rather than graphic gore. Fans are sure to be impressed with this Blu-ray's AVC 1.85:1 1080p encode, which does a much better job with the film's autumnal hues and diffuse lighting than the original DVD ever managed. Likewise, the DTS-HD MA 5.1 audio highlights the subtle nuances of the film's evocative sound design. Extras, taken from the DVD, are limited to three featurettes and a pair of trailers. The director profile featurette from the DVD is missing here. **AvB**

1 2 3 4 5

New York gangs click with Blu-ray

As zesty and electrifying as ever, the original musical film takes well to its HD treatment

→ West Side Story



Fusing The Bard's most popular work with superb music, inventive choreography (by Jerome Robbins) and expressionist production design, Robert Wise's film charts the doomed romance of two

star-crossed lovers belonging to rival gangs on the streets of NYC. While the two leads are pretty anaemic and the story falls flat between songs on a few occasions, it's more than made up for by the astonishing dance routines and Bernstein's memorable tunes.

Chris Jenkins: According to the studio, *West Side Story* 'has undergone hundreds of hours of restoration' for this Blu-ray release – a fact that shines through in the sumptuous AVC 2.20:1 1080p encode. While there's some very slight sharpening and even some shimmering backgrounds in a handful of shots, this new restoration excels with the film's combination of thick grain, waxy colours and ultra-deep blacks. Most telling of all is the gym dance (Chapter 7), a particularly troublesome sequence with heavily-saturated reds, which are rendered perfectly stable in this Blu-ray encode, with even Maria's virginal white dress unaffected by bleed. I doubt the film could ever look any better than this.

Mark Craven: The movie serves up two audio options – a DTS-HD MA 7.1 remix and a lossy Dolby Digital 4.0 incarnation. Unsurprisingly, it's the musical numbers that get the best out of the enhanced frequency range and tonal precision offered by the former's lossless presentation. And while the track is clearly more expansive than the original sound design, it never feels artificial or



forced. Use of the rears is pretty subtle and atmospheric rather than overtly aggressive. A fine example is the opening of the Maria song (Chapter 10), where the echoes carry into the rears before the rest of the music opens up across the entire soundfield.

Anton van Beek: This two-disc set is packed with bonus features. Alongside the film itself, Disc One offers a Music Machine menu (allowing direct links to the film's 20 songs), an all-new, song-specific commentary by lyricist Stephen Sondheim, and the new *Pow! The Dances of West Side Story*, which offers seven vignettes (19min in total) about the creation of certain dance numbers.

Disc Two houses the *West Side Memories* retrospective documentary, storyboard-to-film comparison reel and quartet of trailers that graced the Special Edition DVD. The two-part *A Place for Us: West Side Story's Legacy* (29mins) pays particular attention paid to choreography. >

HCC VERDICT

West Side Story: 50th Anniversary Edition
20th Century Fox/MGM → All-region BD → £20 Approx
We say: A beautiful BD package

Picture: 1 2 3 4 5

Sound: 1 2 3 4 5

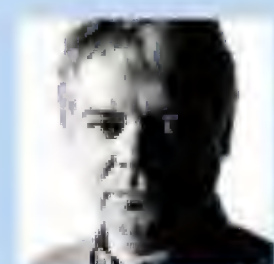
Extras: 1 2 3 4 5

Movie: 1 2 3 4 5

Overall: 1 2 3 4 5

Download Central

Chris Jenkins tries out OnLive, and asks whether gaming will go the same way as music and movies



Music has gone online, movies are going that way and it's surprising that gaming hasn't already followed suit. This may now change with the UK launch of cloud-based games service, OnLive. Introduced last year in the US, the service is now expanding into Europe, and the UK is the first territory in its sights. The concept behind OnLive takes some grasping, but once you get a demo it all makes sense.

The thinking is: why buy a games console and hundreds of games when, given a fast enough broadband connection, you can play the games remotely? OnLive hosts PC games in the 'cloud' (the European server is actually in Luxemburg). You can log on and play via your laptop or tablet, or you can get an OnLive interface box and



wireless games controller for £69 and connect via your TV. You need a broadband connection of around 5Mbps (3Mbps may do) to play HD (720p) resolution games on your bigscreen TV, without the clutter of a console and lots of game discs.

There are around 150 titles available to start with, and partner BT is offering a start-up bundle of 100 games for £9.99. After that, you can hire games for set periods such as two or five days, or pay for lifetime use. Costs are about the same as the PC market – £40, for example, for a premium product such as *Arkham Asylum*.

All the features you expect from the Net, such as friend lists, multi-player gaming, bragging clips and recommendation lists are on offer. At some future stage you may even be able to upload your own avatars.

OnLive works surprisingly smoothly on our demo and seems to make a lot of sense. But we do have some questions, such as shouldn't the premium games be cheaper? And what about console-specific titles, which aren't available on the PC platform? These factors may put off the hardcore gamer, but OnLive seems to be aiming at the more casual gamer, who just wants a quick blast on a first-person shooter or a couple of laps of a driving game. Check it out at www.onlive.co.uk.

Spartacus: Gods of the Arena

Anchor Bay → Region B BD → £45 Approx



This six-part prequel may lack its title character, but it carries on the fine trend for OTT violence and sex established by the earlier *Blood and Sand*. It relates the rise of John Hannah's scheming Quintus Batiatus as he takes control of the family's 'ludus' (gladiator school). It's exciting stuff, full of twists and turns, with lashings of gore and nudity. The two-disc set features stunning AVC 1.78:1 1080p encodes, explosive Dolby TrueHD 5.1 audio and plenty of extras, including a surprisingly nifty 3D conversion of one of the fight scenes. **AvB**

1 2 3 4 5

Fringe: The Complete Third Season

Warner Home Video → All-region BD → £45 Approx



What began as an X-Files-wannabe has now become one of the most demanding and unpredictable sci-fi shows on TV. This third season splits its time between two parallel universes, following the exploits of the Fringe teams in each. Notably, the two Olivias are now trapped in each other's worlds. Impenetrable to anyone who hasn't been following from the start, for fans it's truly thrilling stuff. The four-disc set's AVC 1.78:1 1080p encodes generally hold up well, but there's occasionally a little artefacting and banding on display. The DTS-HD MA 5.1 is impressively roomy. **AvB**

1 2 3 4 5

Glee: The Complete Second Season

20th Century Fox → Region A/B BD → £45 Approx



The all-singing-all-dancing TV sensation found itself in a sophomore slump with this second season. There are plenty of highlights (including more of Sue's withering put-downs and a superb guest-turn from Gwyneth Paltrow), but the plotting is incredibly haphazard and sloppy in places, while the New York finale feels like a wasted opportunity. Scripting issues aside, the sumptuous AVC 1.78:1 1080p encodes and lively DTS-HD MA 5.1 soundtracks make the show look and sound great. Lightweight extras include short behind-the-scenes featurettes. **AvB**

1 2 3 4 5

The Vampire Diaries: Second Season

Warner Home Video → All-region BD → £45 Approx



Doppelgängers and werewolves take centre-stage in this latest season of Kevin Williamson's supernatural series, which continues to find its feet with the occasionally trite and predictable storyline, but still proves to be very entertaining. This handsome four-disc Blu-ray set features refined AVC 1.78:1 1080p encodes for all 22 episodes, hampered only by macroblocking in some sequences (possibly due to cramming up to six episodes on a single disc). The DTS-HD MA 5.1 audio is robust and aggressive when needs be, while extras include 16 deleted scenes. **AvB**

1 2 3 4 5



Anyone for menace?



Original and remade versions of chilling, cat-and-mouse drama land on Blu-ray

→ Cape Fear (1962)

→ Cape Fear (1991)

J. Lee Thompson's 1962 B-movie thriller stars Robert Mitchum as paroled convict Max Cady and Gregory Peck as Sam Bowden, a lawyer he holds responsible for his imprisonment after he testified against him in court. What follows is a game of cat and mouse, as Cady stalks the lawyer and his family, using Bowden's precious laws against him at every turn.

Scorsese's bravura 1991 remake uses the same basic plot (and Bernard Herrmann's original score), but twists it around and shapes it into a completely different, yet no less 'pulpy', flick. Bowden (Nick Nolte) is no longer the whiter-than-white, saintly presence he was in Thompson's film. Here he actually buried evidence to ensure that Cady (Robert De Niro) was sent to prison when serving as his lawyer. And Cady himself has been re-imagined and straddles the line between cartoonish caricature and nightmarish horror with unsettling ease.

Chris Jenkins: The original's VC-1 1.85:1 1080p encode delivers crisp delineation and accurate contrast levels that serves the black and white photography very well. There's also plenty of grain in evidence, giving the image a very natural, film-like look. However, detailing is slightly soft throughout. The highlight of the VC-1 2.40:1 1080p encode of Scorsese's film is easily the rich colour

reproduction and excellent black levels that really do wonders for the film's impenetrable shadows. Detailing is good, rather than knockout, and fine grain is present throughout the film.

Mark Craven: Rather than offering any kind of fancy remix, the original *Cape Fear* arrives on Blu-ray with a DTS-HD MA 2.0 presentation of its soundtrack. The most obvious beneficiary is Bernard Herrmann's bombastic score, sounding suitably grand and in-your face thanks to the improved frequency range and dynamics offered by a lossless presentation. Dialogue is also exceptionally well rendered, with a clarity and naturalness that belies the age of the source material. The newer *Cape Fear* does feature a DTS-HD MA 5.1 mix, but it's never as enveloping as you might expect. Use of the rear speakers is surprisingly limited, confined to atmospheric effects and even staying mostly focused on the front speakers throughout the film's stormy finale. That said, the quality of the audio itself is simply fantastic, packing in plenty of potent bass in the mix and, again, doing wonders for Herrmann's re-used score.

Anton van Beek: Disappointingly, the 1962 version is a completely stripped-down Blu-ray with the most basic menu design imaginable and no extras. This means that the 28min retrospective documentary, trailer and photo gallery that graced the DVD release have all completely disappeared. Luckily, all of the extras from the DVD of Scorsese's remake have been included on Blu-ray.

HCC VERDICT

Cape Fear (1962) Artificial Eye
AI-region BD → £20 Approx

We say: A surprisingly decent high-definition presentation that's sullied by an absence of extras

Picture: 1 2 3 4 5

Sound: 1 2 3 4 5

Extras: 1 2 3 4 5

Movie: 1 2 3 4 5

Overall: 1 2 3 4 5

HCC VERDICT

Cape Fear (1991)

Universal Pictures

All-region BD → £20 Approx

We say: There's nothing to fear with Scorsese's shocker

Picture: 1 2 3 4 5

Sound: 1 2 3 4 5

Extras: 1 2 3 4 5

Movie: 1 2 3 4 5

Overall: 1 2 3 4 5

Demo screen

Check out **Sucker Punch's** aerial assault for an example of home cinema audio crafted to perfection



'Bots and booty:
Suspenders are de rigueur in this fantasy flick



Sucker Punch: Extended Cut

Warner Home Video → All-Region BD → £25 Approx

Time code: 86.16-90.37

In the world of movies, it's the directors and onscreen stars that get all the credit, yet as any home cinema fan knows, the work of the sound department is equally important. Audio is half the experience. Or, with films like *Sucker Punch*, it's even more than that.

This surreal fantasy fight flick from director Zack '300, *Watchmen*' Snyder features an outrageous DTS-HD MA 5.1 mix that serves as perfect demo fodder – not only for what your system can do, but what Hollywood can achieve when it puts its mind to it.

For us, the standout sequence is this helicopter attack on a train in Chapter 9, where sound designer and regular Snyder

colleague, Rick Hromadka, throws everything but the kitchen sink into the soundfield. And not in a bad way; there is thought and invention at all times, as Hromadka has great fun using the slo-mo and freeze frame shots to alter the texture of his sonics. Sound effects speed up and slow down with panache.

As the girls jump from their chopper, its blades whirr across the rear soundstage and drop deep into your subwoofer's domain. Then, when they storm the train carriage, you're treated to an exquisite example of a true 360° soundfield, with bullets ripping out of the rear channels and slamming into the front stage.

Even more impressive are the noises that shouldn't really be there. Bizarre clicks, throbs and whooshes erupt as Baby Doll and her team somersault through the cabin and kick robot butt. The delicacy and accuracy of these sonic ticks is astonishing, and they mesh perfectly with Snyder's stylised onscreen visuals.

Meanwhile, the orchestral score by Tyler Bates and Marius de Vries offers an eerie calm underneath the chaotic foley work.

When the Academy Awards roll around in February, we don't expect *Sucker Punch* to bag an Oscar for its sound design – Hollywood is too predictable – but don't let that fool you. This is reference-grade stuff ■

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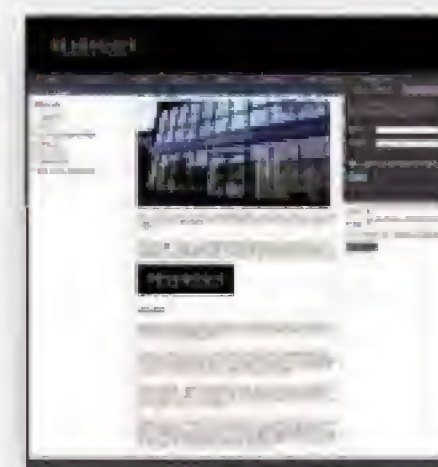
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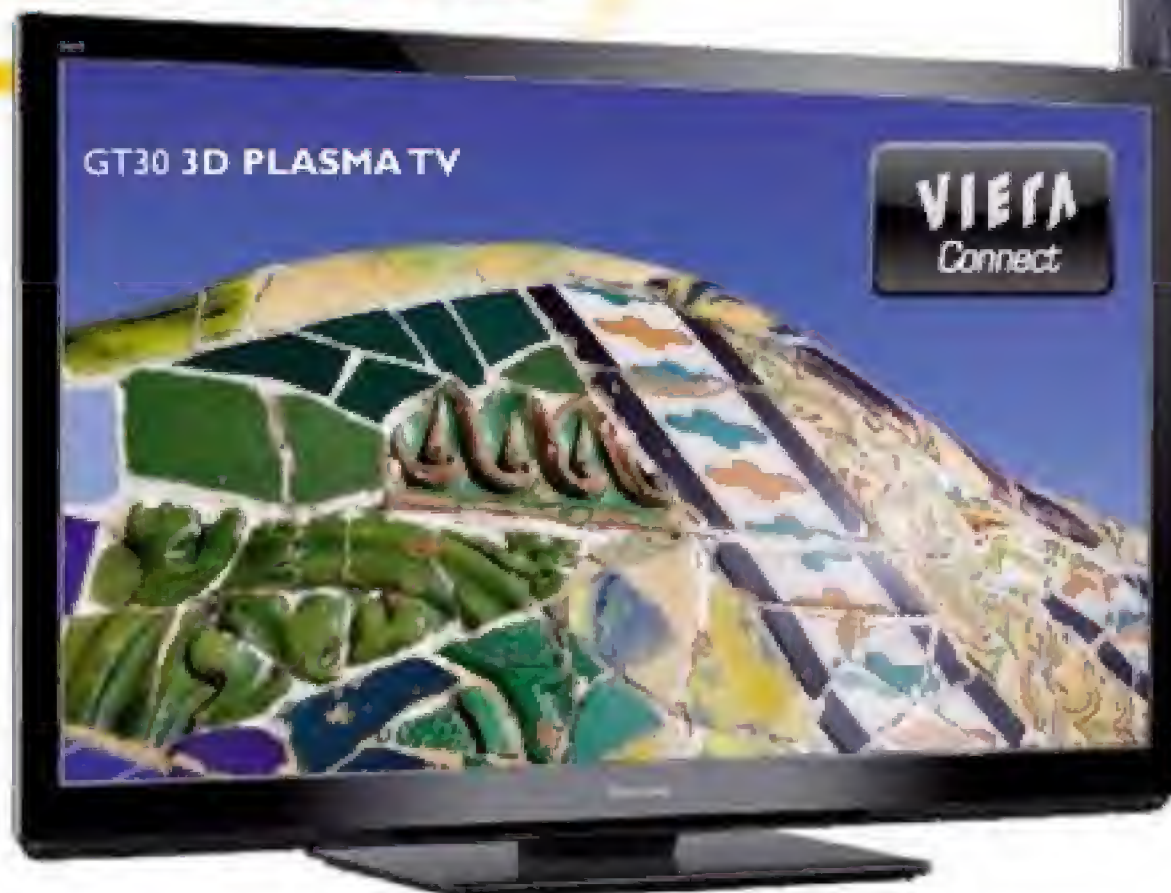
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Feedback

Got an axe to grind? Want to comment on current technology? Need to share? **HCC** is here to help

Lack of subtitles

I'm all set up with a decent HTPC dedicated system. I've got a powerful PC with HDMI and a separate media player with three 2TB HDDs, plus two HDD video recorders and a good speaker/sound system.

I'm also using LOVEFILM and can stream tons of their content as and when. BBC iPlayer and the other web-based TV channels also get used a lot.

What annoys me about the future of Smart TV and streaming is the lack of sub-titles. The Beeb is the only regular channel that gives you the option of getting them whilst streaming. I've written to LOVEFILM about it as well and they were very negative – 'Can't do it matey'. (or words similar...)

I'm very quickly approaching retirement age and find



Mumbling hardmen and lots of explosions = subtitles required

Star
Letter



Please stop buying edge-LED TVs!

When are the public and manufacturers going to get really serious about LED-backlit LCD TVs and really utilise this technology to its full potential? I cannot believe how obsessed the public have become, choosing design and aesthetics – ie. slim screens – over functionality and a superior picture.

Rear-array LED backlighting is the one technology that will vastly improve the contrast ratios of LCDs, as well as virtually remove hotspots of light and uneven backlighting, the latter of which seem to dominate every review of edge-lit TVs.

It seems the manufacturers created edge-lit and then tried to move to the superior rear-array, but then found the buying public were obsessed with slim screens so they had to go back to/remain with edge-lit. Surely there can't be that many people wanting to hang their TV on a wall? I can't blame the manufacturers, they have to follow the trend.

I take my hat off to both Sharp and Philips who have tried their hardest at trying to push rear-array LED screens but had to revert to inferior edge-lit TVs. All the public is doing is holding back this technology. Give me a better picture any day over a slimmer LCD.

Kalwant Chaggar, Leeds

We have to agree with you Kalwant. Even Panasonic, which you could easily accuse of putting performance ahead of design flair in the past, has currently dropped rear-array LED lighting (or Full LED as it's sometimes known) in favour of an edge-based

system. Of course, buyers want their new TV to look as gorgeous as possible, and will always be more attracted to, say, Samsung's D8000 series of edge-lit LCD TVs than a bulkier model – even if the extra girth is only a couple of centimetres at most.

Unfortunately, high-performance technology doesn't always win when it comes to home entertainment; the use of RGB-LED lighting (as espoused by Sharp and Sony) quickly disappeared, for example.

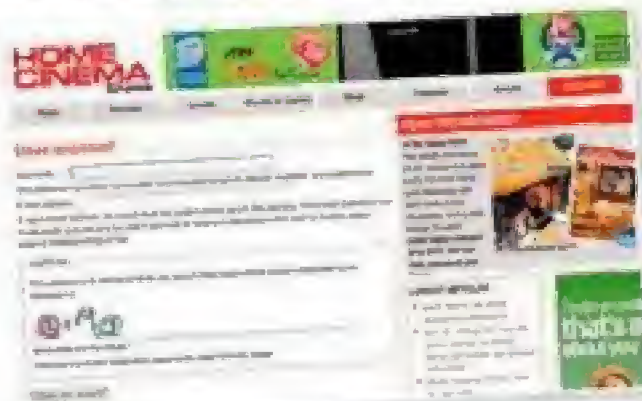
However, all might not be lost. Rear-array LED TVs are making a comeback in the



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that a lot of 'stuff' – particularly modern, fast-moving action movies with people speaking, shouting and screaming, amidst car chases and multiple explosions are becoming almost undecodeable. It's not just a sign of old age and hearing loss – it's a lack of respect for the English language in general. Many so called 'actors' as such don't seem to be as articulate with their words as perhaps their predecessors were.

So, subtitles for me and the missus are becoming an everyday requirement, in order to even remotely understand what they are saying.

You may say that it's only a very small percentage of people that would want this service,

but when you need it, you really need it.

We've often switched over to another channel or service when trying to watch a so-called modern epic, simply because we couldn't get to grips with the plot as the characters whizz along at 200 words a minute in a dialect or accents that are almost undecipherable to us!

Future streamers and streaming companies please note. Give us the option.

Meanwhile – if there's nothing else – I'll just play one of my 500 or so ripped DVDs and, if required, switch the subtitles on!

David Shakespeare, Surrey

Subtitles are very useful – and, as you say, not just for the hard of hearing. Some movies simply suffer from poor audio mixes that makes dialogue at times inaudible – even *HCC's* youngest staff members have been known to hit the subtitle button now and then.

As for streaming services with subtitles – you've stumped us there. LOVEFILM and Blinkbox do offer them for foreign language films (they're 'burnt in'), but not on English language movies, and Blinkbox says it currently has no plans to expand this across all of its content.

Should I upgrade?

When *HCC* reviews the picture quality of HD televisions, the results seem to apply only to HD channels and Blu-ray, (whether 2D or 3D) and DVD pictures. At a nearby Curry's store, I looked at three 40in Samsung TVs and one 46in Samsung at prices from £750

up to £1,800 for the 46in. The picture quality was very good even allowing for the 'out-of-the-box' quality. However, when I asked to see standard television signal pictures such as BBC2, Channel 5, ITV2, 3, and 4, and Dave, for example, which make up the majority of channels on Freeview and Freesat, the pictures were unwatchable. Can you really get a decent standard-def picture from these sources on a large HD television? If you tend to watch mostly standard-def channels is it worth getting an HD television? At the moment, I have a 26in JVC CRT television that still gives a decent picture after 10 years. Also, as all 3D Blu-rays are watchable on active TVs does this mean they can't be watched on LG's passive screens?

Great magazine and thanks for any help.

Rob, via email

There are a number of issues here. First, standard-definition pictures from digital tuners are often of a low quality, due to the way the broadcast signals are compressed. This varies from channel to channel and may improve following the analogue 'switch off', but unfortunately any standard-def picture flaws will show up clearly on a bigscreen TV – more so than your 26in set.

Also, HD TVs upscale standard-def pictures to fit their HD pixel resolutions, and this process can diminish picture quality. However, actually Samsung is one of the better upscalers!

The problem with a shop demo is that the TVs will be running in 'store' mode, with brightness and contrast set to maximum – something which inevitably exaggerates source noise. Also, TVs now routinely have noise reduction and motion processing options that can affect standard-def picture quality, but again a shop won't have experimented with these.

Finally, if you get a TV with a Freeview HD tuner in it, you could actually watch plenty of HD broadcasting anyway!

As for your other question – 3D Blu-rays do play on passive

TVs (the TV converts them to the side-by-side format), but at a reduced resolution.

Media boxes rule!

I have just read the review of the Panasonic TX-P55VT30, which your reviewer says is the best plasma ever. I disagree. Although the picture may be slightly better, without a media box it will never be as good. I have a Pioneer KRP-600A hung on the wall and I can change and alter my equipment and leads without any problems. All my relatives who have their TVs on the wall have problems doing anything with their cables. If Panasonic wants to beat Pioneer it should convert one of its hard-drive recorders into a media box. Now that would be something.

Brian Gardiner, via email

For many *HCC* readers the Panasonic's lack of a media box won't be a problem – all sources will be run through an AVR anyway. The result being a single HDMI cable to the TV and a power lead, the same number of cables you're running into your KRP-600A.

Acting up

Regarding The Beek's review of the *Star Wars* Saga on the *HCC* website, these films are meant for kids – stop looking at them through the jaded eyes of an adult, because you lack the imagination needed. Sure, I loved the first trilogy but then I was only about 6 or 7 when they came out.

To criticise the latest three for bad acting is stupid. Watch the first three again – they're just as awful!

Anonymous, via the website

Just because a film is meant for kids doesn't mean it has to be acted badly – check out the *Harry Potter* movies. And we think Harrison Ford's turn as Han Solo is better than anything in *Episodes I-III* ●

shape of both LG's Nano Full LED lineup and Toshiba's Pro-LED sets. The LG models, in particular, are astonishingly slim, so will stand a chance of catching the eye of style-conscious shoppers. And if they're successful, other brands may be forced to reconsider their own technology.

The only fly in the ointment is that UK release dates for the sets are still to be announced...

Winner: Star Letter-writer Kalwant Chaggar wins a Triple-Play Blu-ray of *X-Men: First Class* courtesy of our mutant friends at 20th Century Fox Home Entertainment. It's available to buy from October 31, priced at £25 approx.

Write to Letters, Home Cinema Choice, Future Publishing, 2 Balcombe Street, London NW1 6NW, or email us at hcc@futurenet.co.uk. Due to the volume of letters we receive we cannot guarantee to print/answer them all.

How we test

Home Cinema Choice's hardware reviews combine the subjective opinion of our seasoned reviewers with hard technical data.

Chris Jenkins explains how the HCC Tech Labs work

HCC hardware reviews combine the opinions of our experienced reviewers with objective technical data from our test lab. Here's how we do it...

HCC's gear reviews have a long tradition of combining the subjective opinions of experienced reviewers with hard scientific data from our test labs. That way, you can be sure that there's no danger of favouritism or prejudice creeping into the reviews – when we combine the reviewer's opinions with the test data, we can be sure that the results we present to you, the readers, are honest, reliable and accurate.

For over 20 years, we have been developing testing methods for every AV technology from CRT TV and VCRs to the latest 3D flatscreens, multichannel amplifiers and media players. Our testers have been trained by the ISF, Tektronix, Home Acoustic Alliance and other industry bodies, and we use industry-standard testing equipment so we can be confident our results make sense in terms of manufacturers' claims.

Our Tech Labs set-up consists of two main facilities.

The Viewing Room

Used mainly for testing TVs, projectors and speakers, the Viewing Room is designed to reproduce the conditions found in a typical mid-range home cinema installation. Created by award-winning custom installers Pounds (www.poundstv.co.uk), it's completely light-proofed for testing of TVs and projectors, is partially soundproofed using Acoustiblok (www.acoustiblok.com), and has been acoustically treated and tuned using custom absorbers and diffusers by the experts at RPG (www.rpg-europe.co.uk).

The room has a resident Crystal Acoustics TX-T2 7.2 speaker system, Onkyo TX-NR5008 receiver and a

Screen Research 100in projection screen. TVs, projectors and other AVRs are moved in as needed for testing. We use a TV stand from Gecko (www.gecko-furniture.co.uk) for mounting flatscreens. A Philips 46PFL9705H TV is used for 3D movie and games playback. The room is fully cabled with speaker, HDMI, and interconnects from Peerless. XLR cables are from Atlas cables. Multiple displays can be fed from the same source using a Gefen 2-in-4-out HDMI switcher/splitter.

The testing equipment used for TVs and projectors is the Chroma5Pro meter and ChromaPure Pro software supplied by Kalibrate Ltd (www.kalibrate.co.uk).

This sophisticated tristimulus colorimeter and analysis software allows us to measure functions such as contrast ratio, colour temperature and luminance, all essentials in picture performance.

The Test Lab

Mainly used for performance analysis of amplifiers and players, the Test Lab is equipped with an Audio Precision APX585 multichannel analyser. This generates programmable test signals, and runs a huge range of tests of functions such as output power, frequency response and distortion. It also has digital audio test functions. A Tektronix VM700 is used for analysis of analogue video signals.

Cables for the test system are again from Peerless.

In addition to the main test units, we use a number of audio and video signal generators from Sencore and Snell & Wilcox, analogue test equipment such as an oscilloscope, mains power meters from Maplin, a library of test and measurement DVDs and Blu-rays (plus all the newest software releases), and standardised digital files for media players.

Tech Lab tests explained

TV power consumption: Watts



White screen: This is a measurement of a display's power consumption in Watts when displaying a pure white 100IRE signal with muted audio

Test footage: Here the power consumption is measured with a looped test sequence of live footage (complete with explosions!) and the audio volume up

TV contrast: ratio



Picture: Contrast ratio claims by TV manufacturers are often extravagant, and don't follow an established standard. Our real-world measurements cut through the hype and allow one brand's contrast to be compared with another in a consistent way

Colour temp: Kelvin



Presets: Most TVs default to a picture setting, which is too bright and 'hot' (blue), in order to make them look good in shops, but also have a choice of colour temperature presets. We tell you which of these gets closest to the industry standard setting of 6,500K (D65)

Blu-ray/DVD power consumption: Watts



Idling: By EU regulation, standby power consumption for most devices is now under 1W, so we don't usually measure this; but the consumption when power is on can be considerably higher, so we measure this for DVD and Blu-ray players and some other devices

Playing: When a disc is spinning, the device's power consumption usually rises, so we measure when playing a standard disc. In theory, media players should display no change in consumption when playing

Audio Jitter: Ps



Sound: The analogue audio jitter from a device such as a Blu-ray player is measured in picoseconds. The lower the number, the better. Though analogue audio output is perhaps rarely used, jitter is often a good indicator of the general build and component quality of many devices



Test bench: The Viewing Room (above) simulates a typical home cinema, while the MSI laptop runs test software for the APX585 analyser (right) and ChromaPure system (above right)



For testing of media software and portable testing applications, we use an MSI GT640 laptop PC with HDMI output and SRS sound.

Results

All this testing generates a huge amount of data, which is fed into product reviews and stored on our database. From this we can establish performance averages which

help us to keep our scoring realistic. Of course, this mass of information is too unwieldy and detailed to publish in the magazine unedited, so our next job is to present it in a way which is meaningful and easy to understand. Our graphical presentations (see below) should make it all more digestible. So, while one key reviewer is normally by-lined for our tests, the whole team will have been involved in bringing you results you can rely on ●

Video Jitter: Ns



Vision: Again, the analogue video jitter of a DVD or BD player may be less relevant when the digital output is normally used, but it is a good indicator of general build and component quality. We also measure other video quality indicators such as chroma crosstalk and frequency response at 5.8MHz

Loading: Boot/Java

Boot speed & tray eject

15s

Tray in to main BD menu

45s

Disc loading & Java:

Blu-ray disc players can be annoyingly slow to load and play discs, thanks mainly to the DRM and Java content. We measure times from power on to tray opening, and tray in to boot menu on a standard BD disc

AVR power: Watts



Powered: Power consumption of an AV amp can be high, but it's a requirement of decent output levels. We measure consumption in two states, when idle, and when loaded with a multichannel surround system

Amp output power: Watts (8Ω, 0.5% THD)



2-channel 8Ω: Manufacturers' claims for amplifier output power can be wildly exaggerated, and testing standards vary widely. Our tests deliver a figure for stereo performance with an 8Ω load, and quote a Total Harmonic Distortion result



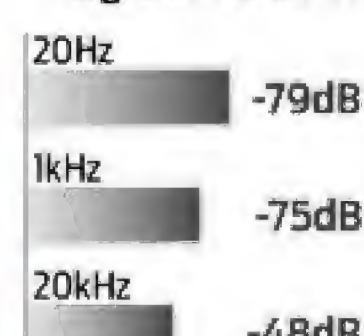
5-channel 8Ω: In most cases, multichannel performance will not match up to the two-channel figure. We push the products to its limit in multi-channel mode and quote the figure reached before unacceptable distortion results

Pure power: Watts



Fidelity firewall: This is our way of measuring an amp's output power ability before it is tainted by distortion. We measure at 1kHz with an 8Ω load to 0.05% THD to get an indication both of output power and component quality

Signal/noise: dB



S/N tests: These amp measurements reveal the ratio of signal to noise at a specific frequency. Low, mid and high readings are taken to determine the imaging and sonic character of the amp



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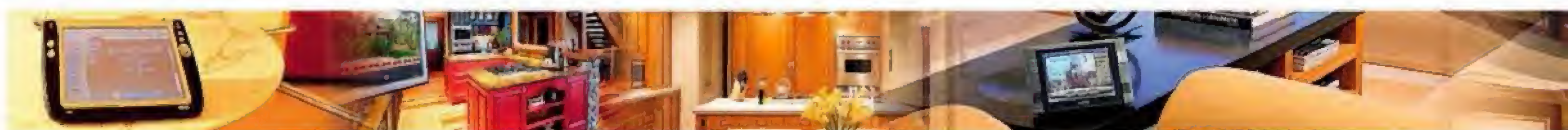


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SELECT

→ **Buying Guide** Looking to purchase a new TV, AVR, speaker set, PJ, media player, BD deck, or surround sound system? Our Buying Guide is here to help. It's updated every issue with the latest reviews, and highlights the major specs so you can see at a glance what kit is right for you. And remember that the prices listed are the original RRP's – shop around and you'll often find them for less!



HCC Ratings key

Officially awesome	1 2 3 4 5
Essential purchase	1 2 3 4 5
Does the job	1 2 3 4 5
Disappointing	1 2 3 4 5
Don't touch it	1 2 3 4 5

TV screens



	Manufacturer	Model	Price	Size (inches)	3D type	Panel type	HDMI	Component	PC	Networking	Internet TV	Wi-fi ready	Freeview HD	Freesat HD	Issue	Rating	Comment
	LG	50PZ950T	£1,600	50	A	PDP	4	1	1	+	+	+	+	+	196	12345	Excellent all rounder, minor judder
	LG	47LW550T	£1,200	47	P	LED	4	1	1	+	+	+	+	+	194	12345	Web browser is multimedia icing
	LG	50PX990	£1,600	50	A	PDP	4	1	1	+	+	+	+	+	192	12345	Adds 3D to the 50PK990
NEW ENTRY	LG	42LV450U	£530	42	-	LED	3	1	1	-	-	-	-	-	200	12345	Lacks Freeview HD and net features
	Loewe	Individual 40	£5,500	40	-	LED	3	1	1	+	-	-	+	-	192	12345	Exquisite design and performance
	Panasonic	TX-P55VT30	£2,700	55	A	PDP	4	1	1	+	+	+	+	+	197	12345	Sublime plasma is best-in-class
	Panasonic	TX-L37DT30	£950	37	A	LED	4	1	1	+	+	+	+	+	196	12345	Do-it-all 3D capable thin screen
NEW ENTRY	Panasonic	TX-L42E3B	£600	42	-	LED	3	1	1	-	-	-	+	-	200	12345	No frills 42in LED seems expensive
	Panasonic	TX-P50GT30	£1,800	50	A	PDP	4	1	1	+	+	+	+	+	195	12345	Stunning 2D and 3D mid-ranger
	Panasonic	TX-P42VT20	£1,800	42	A	PDP	4	1	1	+	+	+	+	+	190	12345	Wireless networking as it should be
	Panasonic	TX-P42ST30	£1,200	42	A	PDP	4	1	1	+	+	+	+	-	198	12345	Entry-level 3D plasma
	Philips	40PFL8605	£1,300	40	A	LED	4	1	1	+	+	+	-	-	192	12345	Accomplished 2D pics. Poor X-talk
	Philips	Cinema 21:9	£4,000	58	A	LED	4	1	1	+	+	+	-	-	190	12345	Faultless movie viewing
	Philips	46PFL9705	£2,500	46	A	LED	4	1	1	+	+	+	-	-	189	12345	Networking includes web browser
	Samsung	UE40D6530	£1,100	40	A	LED	4	1	1	+	+	+	+	-	198	12345	Brilliant pictures and Smart skills
	Samsung	UE40D7000	£1,400	40	A	LED	4	1	1	+	+	+	+	+	197	12345	Gorgeous TV, superb performance
NEW ENTRY	Samsung	UE55D8000	£2,500	55	A	LED	4	1	1	+	+	+	+	+	196	12345	Minor 3D X-talk, otherwise stunning
NEW ENTRY	Samsung	UE60D8000	£4,300	60	A	LED	4	1	1	+	+	+	+	+	200	12345	Big screen comes with a big price
	Samsung	UE46C8000	£1,700	46	A	LED	4	1	1	+	+	-	+	-	192	12345	Black levels fail to spoil super pics
NEW ENTRY	Samsung	UE40D5520	£600	40	-	LED	4	1	1	+	+	+	+	-	200	12345	Superb budget set is hard to fault
	Samsung	PS50C6900	£1,300	50	A	PDP	4	1	1	+	+	+	+	-	191	12345	Great value for money, decent pics
	Samsung	PS51D6900	£1,000	51	A	PDP	4	1	1	+	+	+	+	-	198	12345	Aggressively priced 3D bigscreen
	Samsung	UE65C8000	£5,000	65	A	LED	4	1	1	+	+	+	+	-	190	12345	World's largest 3D LED screen
	Sharp	LC-37LE320	£700	37	-	LED	3	1	1	-	-	-	-	-	194	12345	Tasty set suited to a second room
	Sharp	LC-46LE831E	£1,300	46	A	LED	4	1	1	+	+	+	+	-	199	12345	Sharp's best LED screen ever
	Sharp	LC-60LE925E	£3,500	60	A	LED	4	1	1	+	+	+	-	-	189	12345	Outstanding colours but bad X-talk
NEW ENTRY	Sony	KDL-40CX523	£550	40	-	CCFL	4	1	1	+	+	+	+	-	200	12345	CCFL screen packs tons of features
	Sony	KDL-40EX524	£800	40	-	LED	4	1	1	+	+	+	+	-	197	12345	Great features, decent 2D-only pics
	Sony	KDL-40NX713	£1,000	40	A	LED	4	1	1	+	+	+	+	-	193	12345	Needs optional transmitter for 3D
	Sony	KDL-40NX703	£1,000	40	-	LED	4	1	1	+	+	+	+	-	192	12345	Looks great in white as well as black
NEW ENTRY	Toshiba	42RL853	£600	42	-	LED	4	1	1	+	+	+	+	-	199	12345	Affordable 42incher with few frills
	Toshiba	42HL833	£500	42	-	LED	2	1	1	-	-	-	-	-	200	12345	Good HD pics but only two HDMI's
	Toshiba	46VL758	£1,500	46	-	LED	4	1	1	+	-	+	+	-	192	12345	Undone by inconsistent backlight
	Toshiba	55WL768	£1,850	55	A	LED	4	1	1	+	+	+	+	-	191	12345	HD good, 3D bad. Basic online stuff

A= Active, P= Passive

TV SCREENS EXPLAINED...

PLASMA VS LCD. PLUS, 3D'S RIVAL SYSTEMS

The TV market is becoming increasingly dominated by LED-lit LCD screens that are much thinner than traditional cold cathode fluorescent lamp (CCFL) screens. For 42in and above, plasma display panels (PDPs) come into play. These generally offer superior black levels, better viewing angles and less 3D cross-talk, but less brightness.

Most 3D screens feature the Active system that uses expensive powered 3D specs to deliver full HD images to each eye. Passive 3D TVs have a filter over the screen and use non-powered specs with polarising filters. The glasses are cheap as chips, but the resolution of 3D is halved to 540 lines.

Editor's Choice...

SAMSUNG

55in → UE55D8000 → £2,500 Approx

Samsung's cost-no-object 9000 series launched in 2010 but still tops the brand's range – however, if you want Samsung's most technologically advanced screen then look no further than its 2011 8000 series. Stunning looks with pics to match.

Tested: Issue 196

For more info visit: www.samsung.co.uk



Blu-ray players



Manufacturer	Model	Price	BD Live storage	3D	Multi-channel analogue out	HDMI	USB	Online portal	Wi-fi ready	DVD-Audio/SACD	Issue	Rating	Comment
Arcam	FMJ-BDP100	£1,000	+	+	+	1	+	+	+	+	194	12345	Rock-solid build quality and pics to match
Cambridge Audio	Azur 650BD	£400	+	+	+	1	+	+	+	+	184	12345	Top-notch build pays dividends with 2D fodder
Cambridge Audio	Azur 751BD	£800	+	+	+	2	+	+	+	+	199	12345	Universal deck performs well, needs more 'net
Denon	DBP-1611UD	£400	+	+	+	1	+	+	+	+	194	12345	Awful GUI but 3D pics are as good as it gets
Denon	DBP-2012UD	£750	+	+	+	1	+	+	+	+	198	12345	High-performance player with battleship build
Denon	DVD-A1UD	£4,500	+	+	+	2	+	+	+	+	178	12345	Unsurpassed reference quality audio and pics
Denon	Cara	£2,000	+	+	+	4	+	+	+	+	185	12345	With built-in 5 x 75W digital amp
Dune	Smart B1	£240	+	+	+	1	+	+	+	+	198	12345	Advanced networking features will wow techies
LG	BX580	£150	+	+	+	1	+	+	+	+	189	12345	Reasonable BD pics, messy DVD upscaler
LG	BD570	£200	+	+	+	1	+	+	+	+	186	12345	Speedy loading and highly multi-media capable
LG	BD670	£170	+	+	+	1	+	+	+	+	199	12345	Smart BD player offers great value
Marantz	UD7006	£800	+	+	+	1	+	+	+	+	200	12345	Superior AV performance and tasty design
NAD	M56	£1,900	+	+	+	1	+	+	+	+	183	12345	Motion processing issues spoil the day
Onkyo	BD-SP808	£500	+	+	+	1	+	+	+	+	195	12345	Accomplished disc spinner. Slow disc loader
Oppo	BDP-95EU	£900	+	+	+	2	+	+	+	+	197	12345	Even better build and results than the BDP-93EU
Oppo	BDP-93EU	£500	+	+	+	2	+	+	+	+	195	12345	Awesomely good video and music performance
Oppo	BDP-83SE	£1,300	+	+	+	1	+	+	+	+	190	12345	Precision engineered analogue audio output
Panasonic	DMP-BD75	£110	+	+	+	1	+	+	+	+	196	12345	OK images, quick loader, underwhelming to use
Panasonic	DMP-BDT310	£260	+	+	+	2	+	+	+	+	194	12345	Terrific new GUI, refined sound and pictures
Panasonic	DMP-BDT300	£260	+	+	+	2	+	+	+	+	194	12345	Versatile, aging deck. Look out for discounts
Panasonic	BFT800EBK	£650	+	+	+	1	+	+	+	+	192	12345	Built-in soundbar and iPod dock. Great 3D pics
Philips	BDP7600	£200	+	+	+	1	+	+	+	+	198	12345	Feature-heavy deck with open web browser
Philips	BDP7500 MKII	£200	+	+	+	1	+	+	+	+	194	12345	Slickly designed with decent 2D and 3D images
Pioneer	BDP-LX53	£400	+	+	+	1	+	+	+	+	187	12345	Basic and slow to load but impressive BD pics
Samsung	BD-D7500	£250	+	+	+	1	+	+	+	+	198	12345	Style-centric wall-mountable 3D player
Samsung	BD-D6900	£300	+	+	+	1	+	+	+	+	195	12345	Decent BD deck with built-in Freeview HD tuner
Samsung	BD-C6900	£255	+	+	+	1	+	+	+	+	194	12345	Quick loader, versatile deck. Passable pictures
Sharp	BD-HP90S	£290	+	+	+	1	+	+	+	+	194	12345	Slot-loading vertical design, expensive
Sony	BDP-S380	£130	+	+	+	1	+	+	+	+	199	12345	Budget player misses out on 3D and networking
Sony	BDP-S480	£150	+	+	+	1	+	+	+	+	198	12345	Brilliant deck offers superior VOD at a low price
Sony	BDP-S570	£160	+	+	+	1	+	+	+	+	185	12345	Supreme quality deck; plenty of web content
Toshiba	BDX3100	£185	+	+	+	1	+	+	+	+	194	12345	Feature-light but does the job with solid pics
Toshiba	BDX3200	£150	+	+	+	1	+	+	+	+	197	12345	Unexciting player can't compete with rivals
Yamaha	BD-S667	£300	+	+	+	1	+	+	+	+	189	12345	Impressive but best partnered to a Yamaha AVR

NEW ENTRY

BLU-RAY EXPLAINED...

MATCHING YOUR DECK TO YOUR AMP

Blu-ray decks are designed to deliver top-notch images (some do it much better than others of course) but Blu-ray is also about enjoying superior quality sound. When choosing a deck, bear in mind the connectivity and decoding features of your amplifier. If it's an older model that doesn't have HDMI inputs then you'll need a BD player with multichannel analogue audio outputs to enjoy hi-res surround sound formats. Most current AVRs have HDMI inputs that accept bitstreamed Dolby TrueHD and DTS-HD MA, but not all receivers can cope with 3D video signals, in which case you'll need a deck with dual HDMI outputs – one for the amp, one for the TV.

Editor's Choice...

PANASONIC
DMP-BDT310 → £260 Approx



This second-gen 3D deck improves on its BDT300 predecessor thanks to new tricks and a lower asking price. Standout features – alongside the excellent 2D and 3D playback – are Skype functionality, 2D-3D conversion, faster loading times and a revamped GUI that takes usability to the next level. Motion-sensitive controls bring even more to the party.

Tested: Issue 194

For more info visit: www.panasonic.co.uk

AV Receivers



Manufacturer	Model	Price	Claimed power	THX	Multi-ch in	HDMI in	HDMI out	3D	Dolby True HD	DTS HD MA	Networking	Net tuner	Issue	Rating	Comment
Anthem	MRX 700	£2,100	7 x 120W	+	+	4	1	+	+	+	+	+	195	1 2 3 4 5	Complex set-up, great EQ sound
Arcam	AVR400	£1,700	7 x 90W	+	+	5	1	+	+	+	+	+	194	1 2 3 4 5	Beautifully built. Ace analogue audio
Denon	AVR-4311	£2,000	9 x 170W	+	+	6	2	+	+	+	+	+	193	1 2 3 4 5	Polished audio, Airplay streaming
Denon	AVR-1611	£350	7 x 110W	+	+	4	1	+	+	+	+	+	191	1 2 3 4 5	Uses binding posts. Decent sound
Denon	AVR-2311	£800	7 x 135W	+	+	6	1	+	+	+	+	+	190	1 2 3 4 5	iPod dock but no networking
Marantz	SR7005	£1,400	7 x 125W	+	+	6	2	+	+	+	+	+	187	1 2 3 4 5	Great home cinema amp
Onkyo	TX-NR609	£500	7 x 60W	+	+	6	1	+	+	+	+	+	195	1 2 3 4 5	Comprehensive, stunning performer
Onkyo	TX-NR5008	£2,400	9 x 140W	+	+	8	2	+	+	+	+	+	191	1 2 3 4 5	Versatile and capable of brilliance
Onkyo	TX-SR308	£250	5 x 100W	+	+	3	1	+	+	+	+	+	191	1 2 3 4 5	Under specified and under powered
Onkyo	TX-SR608	£450	7 x 160W	+	+	6	1	+	+	+	+	+	184	1 2 3 4 5	Dynamic sound, decent features
Pioneer	VSX-520	£300	5 x 130W	+	+	3	1	+	+	+	+	+	191	1 2 3 4 5	Decent sound; spring-clip terminals
Pioneer	SC-LX83	£2,000	7 x 190W	+	+	3	1	+	+	+	+	+	186	1 2 3 4 5	Punchy audio with superb control
Pioneer	VSX-920	£500	7 x 140W	+	+	4	1	+	+	+	+	+	185	1 2 3 4 5	Cool iPod integration, lacks guts a bit
Pioneer	VSX-2021	£800	7 x 150W	+	+	7	2	+	+	+	+	+	200	1 2 3 4 5	Class-leading control and RoomEQ
Sony	STR-DH810	£300	7 x 140W	+	+	4	1	+	+	+	+	+	186	1 2 3 4 5	Easy to use. Impressive audio
Yamaha	RXV-3067	£1,500	7 x 140W	+	+	8	2	+	+	+	+	+	194	1 2 3 4 5	Superb and musical reproduction
Yamaha	RXV-367	£200	5 x 120W	+	+	4	1	+	+	+	+	+	191	1 2 3 4 5	Budget spec and sound to match
Yamaha	RXV-471	£300	5 x 105W	+	+	4	1	+	+	+	+	+	199	1 2 3 4 5	Brilliant sounding entry-level AVR
Yamaha	RXV-1067	£850	7 x 105W	+	+	8	2	+	+	+	+	+	190	1 2 3 4 5	Optimised for cinema. Good connects

NEW ENTRY

Systems



Manufacturer	Model	Price	3D	Claimed power	Configuration	Dolby True HD	DTS HD MA	HDMI in/out	Component	Online portal	Wi-fi ready	Issue	Rating	Comment
Harman/Kardon	BDS800	£1,100	+	525W	5.1	+	+	0/1	+	+	+	194	1 2 3 4 5	Nil by 1080p24. OK performance
LG	HB-965TZ	£600	+	1,100W	5.1	+	+	2/1	+	+	+	187	1 2 3 4 5	Lovely flat speakers and excellent GUI
Panasonic	SC-BTT775	£400	+	1,000W	5.1	+	+	2/1	+	+	+	198	1 2 3 4 5	A decent starter system for AV novices
Panasonic	SC-BTT350	£370	+	1,000W	5.1	+	+	0/1	+	+	+	190	1 2 3 4 5	Sonics don't match the versatility
Panasonic	SC-BT320	£400	+	1,000W	5.1	+	+	1/1	+	+	+	187	1 2 3 4 5	Pics are ok but a right pain to use
Panasonic	SC-BT330	£500	+	1,000W	5.1	+	+	0/1	+	+	+	183	1 2 3 4 5	Great BD deck; decent audio performer
Panasonic	SC-BTT330	£350	+	1,000W	5.1	+	+	2/1	+	+	+	200	1 2 3 4 5	Affordable surround sound, old net portal
Samsung	HT-D6750W	£800	+	1,300W	5.1	+	+	2/1	+	+	+	197	1 2 3 4 5	Claims to be 7.1 but isn't
Samsung	HT-C9950W	£2,000	+	1,000W	7.1	+	+	2/1	+	+	+	190	1 2 3 4 5	Perfect style match for Samsung's TVs
Samsung	HT-C6730	£600	+	1,330W	7.1	+	+	1/1	+	+	+	187	1 2 3 4 5	Room-filling sonics; wireless rear speakers
Sony	BDV-E370	£500	+	850W	5.1	+	+	0/1	+	+	+	187	1 2 3 4 5	Good sound at low volume; SACD playback

NEW ENTRY

Speakers



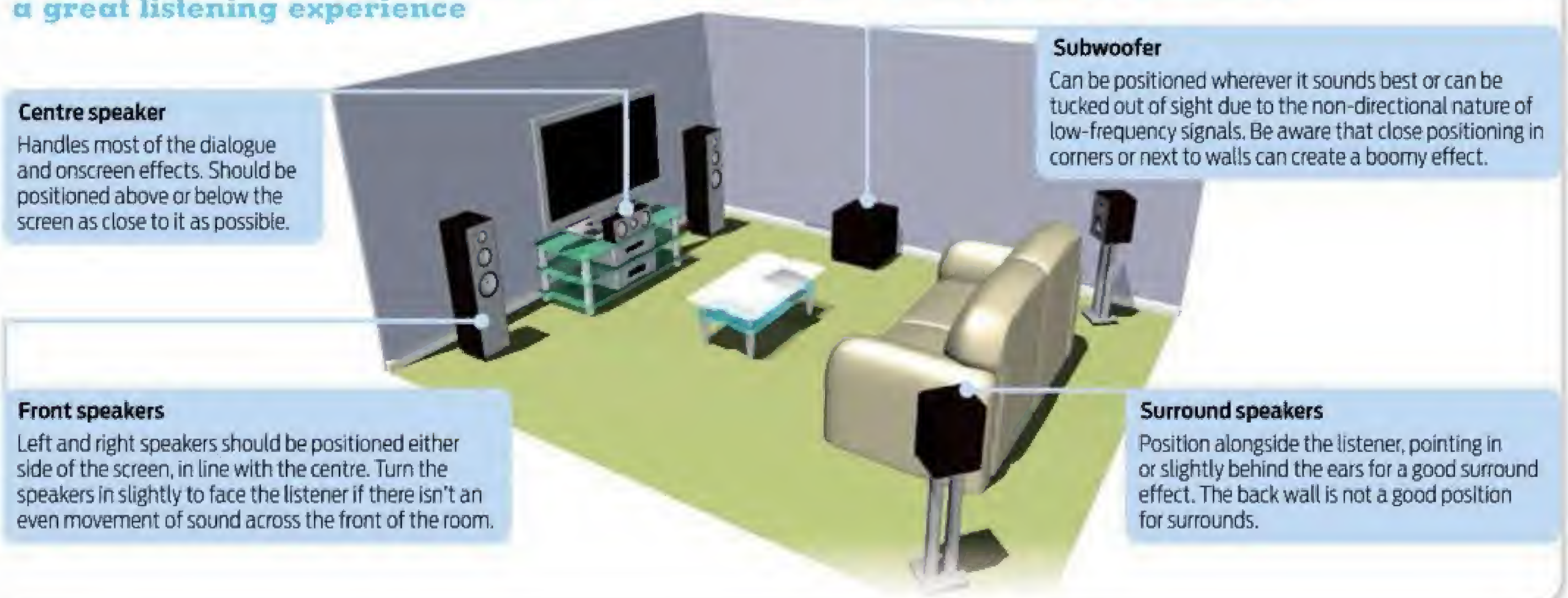
Manufacturer	Model	Price	Configuration	Front max power	Rear max power	Centre max power	Sub power	bookshelf	Issue	Rating	Comment
Acoustic Energy	Aegis Neo Max	£1,900	7.1	2 x 200W	2 x 170W	120W	200W	surr	199	10000	With 2 x 120W surrounds. An awful lot of speakers for the money
Artcoustic	Spitfire	£21,500	7.5	2 x 250W	2 x 250W	250W	250W	no	200	10000	Plus 2 x 150W surrounds. Wall-mountable speakers with might
Bowers & Wilkins	800 Diamond	£22,500	5.1	2 x 500W	2 x 120W	300W	1,000W	no	196	10000	Breathtaking sound, bonkers price
Cambridge Audio	Minx S325	£800	5.1	2 x 75W	2 x 75W	75W	300W	all	195	10000	Extraordinary power for dinky size
Canton	CD 105	£500	5.1	2 x 100W	2 x 100W	100W	100W	all	196	10000	Potent but suited to smaller areas
Canton	Vento 800	£6,650	5.1	2 x 140W	2 x 80W	85W	750W	rear	194	10000	Fab definition & fidelity
Crystal Acoustics	BPT5	£600	5.1	2 x 125W	2 x 125W	125W	120W	no	187	10000	Bipoles suited to smaller rooms
Eclipse	Time Domain	£16,500	5.1	2 x 70W	2 x 70W	70W	500W	no	189	10000	Gorgeous design and articulation
EMP Tek	Impression	£4,000	7.1	2 x 200W	2 x 200W	120W	100W	surr	193	10000	With 2 x 100W surrounds. Thrilling
Image Audio	IA 8/5/C	£4,000	5.0	2 x 150W	2 x 150W	300W	n/a	no	195	10000	Excellent flat panel speakers
KEF	T-Series T205	£1,500	5.1	2 x 150W	2 x 100W	150W	250W	no	192	10000	Skinny and stylish. Immersive
Klipsch	HD Theatre	£500	5.1	2 x 100W	2 x 100W	100W	100W	all	192	10000	Horn tweeters are a tad rough
Magnat	Quantum 650	£1,700	5.1	2 x 350W	2 x 180W	180W	270W	rear	198	10000	Potent system at a good price
Monitor Audio	Apex	£2,425	5.1	2 x 100W	2 x 100W	200W	500W	rear	190	10000	Luxury styling and performance
Monitor Audio	Bronze BX	£1,350	5.1	2 x 120W	2 x 80W	120W	200W	rear	191	10000	Sub strains to keep up
Pioneer	S71	£2,600	5.1	2 x 130W	2 x 130W	130W	280W	rear	194	10000	Immersive sound. Severe looking
PSB	Image Series	£1,500	5.1	2 x 200W	2 x 150W	150W	150W	rear	199	10000	Look great, sound tasty
PSB	Imagine Series	£3,000	5.1	2 x 200W	2 x 150W	150W	500W	rear	188	10000	Unexpected impact for the price
Q Acoustics	2000 series	£550	5.1	2 x 75W	2 x 75W	100W	140W	all	185	10000	Detailed, compact sub/sat system
Scandyna	Micropod SE/ The Ball	£900	5.1	2 x 100W	2 x 100W	100W	60W	all	200	10000	Quirky design married to hi-tech drivers = slick style system
Stealth Acoustics	LR Series 7.2	£7,000	7.2	2 x 200W	4 x 100W	200W	2 x 200W	no	189	10000	'Invisible' flat surface speakers
Tannoy	Definition	£8,200	5.0	2 x 400W	2 x 350W	350W	n/a	rear	197	10000	Worth every penny. Bring on the sub
Tannoy	Arena HL 300	£1,850	5.1	2 x 75W	2 x 75W	75W	300W	no	198	10000	High-end sub/sats with style
Teufel	Columa 100	£350	5.1	2 x 100W	2 x 100W	100W	100W	no	195	10000	Energetic floorstanders. Ace sub
Teufel	Theatre 200	£800	5.1	2 x 140W	2 x 150W	140W	250W	all	195	10000	Bold sats, sub suffers colouration
Quadral	Chromium 5.1	£2,700	5.1	not given	not given	not given	150W	rear	197	10000	Top quality drivers, nice cabinets
XTZ	99 Series	£2,200	5.1	2 x 550W	2 x 100W	100W	300W	no	193	10000	Big, tunable sound. Mail-order

NEW ENTRY

NEW ENTRY

5.1 CLASSIC HOME CINEMA SPEAKER LAYOUT...

Follow these simple rules when laying out your system and you'll be guaranteed a great listening experience



Projectors



Manufacturer	Model	Price (Original)	Type	Resolution	3D	HDMI	Component	12V trigger	Fan noise/dB	Lamp life/hr	Issue	Rating	Comment
BenQ	W1100	£900	DLP	1920 x 1080	⊖	2	1	1	22	2,500	197	1 2 3 4 5	Dynamic images, noisy fan
BenQ	W1000+	£750	DLP	1920 x 1080	⊖	2	1	1	26	5,000	193	1 2 3 4 5	Performance transcends price
Casio	XJ-A235	£1,000	DLP	1280 x 800	⊖	1	0	0	29	20,000	192	1 2 3 4 5	LED/DLP hybrid. Poor pics
Epson	EH-TW3600	£1,300	LCD	1920 x 1080	⊖	2	1	1	22	4,000	193	1 2 3 4 5	Bright pics but average black levels
Epson	EH-TW5500	£4,000	LCD	1920 x 1080	⊖	2	1	1	22	4,000	181	1 2 3 4 5	Easy and flexible to set up
InFocus	SP8600	£800	DLP	1920 x 1080	⊖	2	1	1	30	2,500	198	1 2 3 4 5	Excellent sub-£1k projector
InFocus	SP8604	£2,500	DLP	1920 x 1080	⊖	3	1	2	28	3,000	196	1 2 3 4 5	Versatile PJ with decent pictures
InFocus	SP8602	£3,000	DLP	1920 x 1080	⊖	2	3	3	28	2,500	182	1 2 3 4 5	Good pics with minor operating flaws
JVC	DLA-X3	£3,600	D-ILA	1920 x 1080	⊕	2	1	1	20	3,000	193	1 2 3 4 5	Aces 2D images, X-talk with 3D
JVC	DLA-X7	£5,550	D-ILA	1920 x 1080	⊕	2	1	1	20	3,000	195	1 2 3 4 5	Brightness and black level to die for
JVC	DLA-HD990	£9,000	D-ILA	1920 x 1080	⊖	2	1	1	19	3,000	185	1 2 3 4 5	Gorgeous with amazing black levels
Optoma	HD67N	£500	DLP	1280 x 720	⊖	1	2	0	29	3,000	194	1 2 3 4 5	With so-so 3D using a 3D-XL adapter
Optoma	HD20	£900	DLP	1920 x 1080	⊖	1	2	0	29	4,000	176	1 2 3 4 5	One of the first budget Full HD PJs
Panasonic	PT-AE4000	£2,500	LCD	1920 x 1080	⊖	2	1	1	22	2,000	177	1 2 3 4 5	Filmic pictures and easy to setup
Runco	LS-5	£7,500	DLP	1920 x 1080	⊖	2	2	2	30	4,000	187	1 2 3 4 5	3-chip performance from one chip
Sanyo	PLV-Z4000	£1,800	LCD	1920 x 1080	⊖	2	2	1	19	3,000	191	1 2 3 4 5	Quiet. Yellow-ish but filmic images
Sharp	XV-Z17000	£4,000	DLP	1920 x 1080	⊕	2	1	0	n/a	n/a	196	1 2 3 4 5	Living room friendly, 3D impresses
SIM2	MICO 40	£11,000	DLP	1920 x 1080	⊖	2	1	2	n/a	30,000	189	1 2 3 4 5	Eco-friendly LED-lit and versatile
SIM2	C3X Lumis Uno	£19,000	DLP	1920 x 1080	⊖	2	1	3	32	2,500	184	1 2 3 4 5	Supreme pics but lacks manual iris
SIM2	Lumis 3D-S	£30,000	DLP	1920 x 1080	⊕	2	1	3	n/a	3,000	199	1 2 3 4 5	Reference level 3D projector
Sony	VPL-VW90ES	£5,400	SXRD	1920 x 1080	⊕	2	1	1	22	n/a	192	1 2 3 4 5	Bright pics but average black levels
Sony	VPL-VW85	£5,400	SXRD	1920 x 1080	⊖	2	1	1	20	3,000	174	1 2 3 4 5	Elderly but impressive SXRD PJ
Sony	VPL-HW20	£2,400	SXRD	1920 x 1080	⊕	2	1	0	20	n/a	190	1 2 3 4 5	Complex but capable of greatness
ViewSonic	PRO8200	£900	DLP	1920 x 1080	⊖	2	1	1	27	3,000	192	1 2 3 4 5	Falters with motion resolution
Vivitek	H9080FD	£10,000	DLP	1920 x 1080	⊖	2	1	1	n/a	4,000	173	1 2 3 4 5	World's first 'lampless' LED projector
Vivitek	H1085	£1,000	DLP	1920 x 1080	⊖	2	1	1	26	4,000	179	1 2 3 4 5	Affordable DLP PJ could be quieter
Vivitek	H5080	£2,700	DLP	1920 x 1080	⊖	3	1	2	27	2,000	186	1 2 3 4 5	Excellent contrast and colour. Noisy

PROJECTOR SCREENS EXPLAINED...

FIXED FRAME OR ROLL AWAY?

When buying a projector, it's important to think about what screen you're going to partner it with. There are two main approaches – fixed-frame, where the screen is placed in a rigid frame and attached permanently to the wall, or 'roll-away' where it can be rolled up when not in use, including via neat, motorised systems. For the best picture quality and dedicated cinema rooms, fixed frame is preferable, as permanent screens generally stay more tautly stretched and deliver the most accurate pictures. Roll-away screens are more suited to when the room needs to double as a living room. Pricing, of course, varies depending on what size you need.

Editor's Choice...

SONY

SXRD → VPL-VW90ES
→ £5,400 Approx

Sony's range-topping projector marries an exemplary 2D picture performance with one of the best active shutter 3D systems we've seen. And, aside from its video prowess, it features smart design, solid build and versatile installation options.

Tested: Issue 192
For more info visit: www.sony.co.uk/biz



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Media Players



Manufacturer	Model	Price	Type	HDD	3D	HDMI	DLNA	Online portal	USB playback	Wi-fi ready	Issue	Rating	Comment
AC Ryan	PlayOn! HD Essential	£130	Player	1TB	+	1	+	+	+	+	194	1 2 3 4 5	No wired Ethernet option, so you have to network via wi-fi dongle
Boxee	Boxee Box	£200	VOD	+	+	1	+	+	+	+	193	1 2 3 4 5	iPlayer access. Browser is a pain to use
Buffalo	Linkstation Pro LS-VL	£170	NAS	1TB	+	+	+	+	+	+	192	1 2 3 4 5	Speedy and reliable with Bit Torrent client. 1.5TB and 2TB versions are also available
Crystal Acoustics	PICOHD5.1	£50	Player	+	+	1	+	+	+	+	199	1 2 3 4 5	Small, no frills media player
Digital Stream	DPS-1000	£90	VOD	+	+	1	+	+	+	+	196	1 2 3 4 5	Good for VOD services, no optical out
lomega	StorCenter IX2-200	£215	NAS	2TB	+	0	+	+	+	+	182	1 2 3 4 5	Pocket-sized powerhouse with handy one-touch USB copy
lomega	Screenplay MX	£140	Player	1TB	+	1	+	+	+	+	194	1 2 3 4 5	No optical audio out or hi-res audio
lomega	Screenplay MX TV Link Director's Edition	£90	Player	+	+	1	+	+	+	+	185	1 2 3 4 5	This wallet-friendly player is well-specified, but the lack of a search function can make trawling content a pain
iXtreamer	iXtreamer	£150	NAS	+	+	1	+	+	+	+	199	1 2 3 4 5	Slick player with space for SATA HDD
Netgear	NeoTV 550	£140	Player	+	+	1	+	+	+	+	199	1 2 3 4 5	Solid offering but file support isn't comprehensive
Netgear	ReadyNAS NVX	£500	NAS	1TB	+	0	+	+	+	+	185	1 2 3 4 5	Tank-like NAS can accommodate up to 8TB of storage – a serious bit of hardware
Popbox	Popbox 3D	£140	Player	+	+	1	+	+	+	+	199	1 2 3 4 5	Offers BBC iPlayer and MKV3D file support
Sony	SMP-N100	£120	VOD	+	+	1	+	+	+	+	193	1 2 3 4 5	Bravia Internet TV and streaming aplenty
Synology	USB Station 2	£85	Player	+	+	+	+	+	+	+	193	1 2 3 4 5	Simply add your own USB hard disks
Synology	DS410	£400	Player	+	+	+	+	+	+	+	190	1 2 3 4 5	Accommodates up to 8TB of SATA drives
Teufel	MediaStation 6	£270	Player	1TB	+	1	+	+	+	+	200	1 2 3 4 5	Freeview HD totting player has hideous UI
Toshiba	Stor.E TV+	£170	Player	1TB	+	1	+	+	+	+	195	1 2 3 4 5	Tosh's cute unit supports a wide range of formats
Verbatim	MediaShare	£130	NAS	1TB	+	1	+	+	+	+	188	1 2 3 4 5	Stylish, well-featured NAS
WD	WD TV Live Hub	£200	Player	1TB	+	1	+	+	+	+	190	1 2 3 4 5	Superb multi-format player
WD	WD TV Mini	£48	Player	+	+	0	+	+	+	+	189	1 2 3 4 5	Tiny media player lacks HDMI output

HOME CINEMA Choice

ISSUE
#202 ON SALE
Nov 17

→ In the next issue

How green is your cinema? And is it costing you the Earth to run?

Glasses-free 3D The technology behind the next big thing

Christmas gift guide We write your Xmas wishlist for you!

→ On test

PHILIPS CINEMA 21:9 GOLD Passive 3D

CinemaScope TV **ONKYO TX-NR709**

Mid-range 7.2 AV receiver **SONY**

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Recorders



Manufacturer	Model	Price	Type	HDD/GB	HDMI	Component	Scart	USB Media	Online portal	Wi-fi ready	Issue	Rating	Comment
3View	3VHD	£300	F'view HD	500	1	0	1	+	+	-	193	12345	Good recorder, scant internet TV offering
Digitalstream	DHR8205U	£300	F'view HD	500	1	0	1	+	-	-	185	12345	Below-par standard def pics. Handy CI slot
Echostar	HDS-600RS	£350	F'sat HD	500	1	0	2	+	+	-	196	12345	Solid PVR with built-in SlingPlayer feature
Humax	HDR-FOX T2	£330	F'view HD	250	1	0	1	+	+	+	190	12345	Lovely to use with great quality results
Panasonic	DMR-BWT700	£500	F'view HD	320	1	0	2	+	+	+	197	12345	Complex with Blu-ray recorder and 3D player
Samsung	SMT-S7800	£280	F'sat HD	500	1	0	2	+	+	+	197	12345	Good recorder, scant internet TV offering
Samsung	BD-D8500	£380	F'view HD	500	1	1	0	+	+	+	194	12345	With 3D Blu-ray deck. Only records one tuner
TVonics	DTR-Z500HD	£230	F'view HD	500	3	0	1	+	-	-	196	12345	Handy HDMI switcher, dire for multi-media
Virgin Media	TiVo	£200	Cable TV	1TB	1	0	1	-	+	-	195	12345	Awesome 3- tuner PVR. No BBC red button

Subwoofers



Manufacturer	Model	Price	Sealed/ported	Power (RMS)	Frequency response/Hz	Driver size	Dimensions/ (w x h x d)mm	Weight/kg	Issue	Rating	Comment
BK Electronics	XXLS400DF	£410	S	400W	19-120	12in	400 x 460 x 400	28	196	12345	Clean and tight; great value
Bowers & Wilkins	DB1	£3,250	S	1,000W	17-45	12in x 2	460 x 490 x 410	44	197	12345	Bipolar arrangement, ripping
Paradigm	Seismic 110	£1,250	S	850W	18-150	10in	298 x 343 x 320	17	188	12345	AKA The Bulldog and has real bite
Paradigm	SUB1	£5,000	S	1,700W	35-150	8in x 6	505 x 516 x 455	50	197	12345	Unorthodox hexagonal shape
Polk Audio	microPro 2000	£1,200	S	1,200W	22-200	8in	280 x 321 x 324	15	186	12345	Easy to use, versatile, mega sound
REL	T3	£430	S	150W	30-120	8in	300 x 343 x 356	13	186	12345	Amazing sound for compact size
SV Sound	PC 12 Plus DSP	£1,250	P	800W	10-150	12.5in	1,022 x 407	39	198	12345	Cylindrical sub for big spaces
Velodyne	CHT-15Q	£1,200	P	750W	23-120	15in	467 x 533 x 527	34	189	12345	Great handset and EQ set-up
Velodyne	DD18+	£5,800	S	1,250W	8.8-300	18in	530 x 580 x 650	65	197	12345	Huge 18in driver, muscular sound

Soundbars



Manufacturer	Model	Price	Power	Separate sub	Sub power	HDMI in	HDMI out	Dolby True HD	DTS HD MA	Dimensions/ (w x h x d)mm	Weight/kg	Issue	Rating	Comment
Lenco	SB-100	£140	80W	-	N/A	0	0	-	-	540 x 110 x 165	1.4	199	12345	Budget, but '3D' effect is good
Orbitsound	T12	£300	80W	+	20W	0	0	-	-	605 x 100 x 110	2.8	186	12345	Offers integrated iPod dock
Panasonic	SC-HTB520	£300	120W	+	120W	1	1	-	-	1002 x 80 x 50	2.5	199	12345	HDMI but no TrueHD/DTS-HD
Samsung	HWC450	£250	160W	+	120W	0	0	-	-	957 x 92 x 46	2.3	182	12345	Affordable, has wireless sub
Teufel	Cinebar 50	£670	200W	+	150W	0	0	-	-	1010 x 130 x 100	8	182	12345	Punchy sound but not cheap
Yamaha	YSP-2200	£800	132W	+	100W	3	1	+	+	435 x 137 x 350	6	196	12345	Effective surround sound

HD CABLES AND CONNECTIONS

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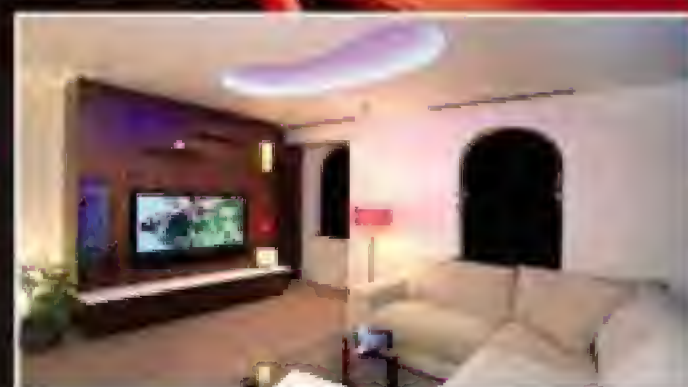
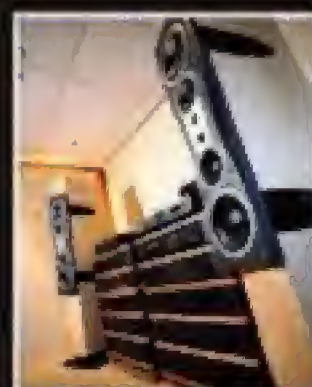
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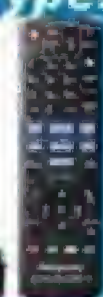
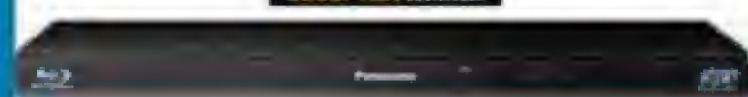
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POINT OF VIEW

Richard Stevenson waves his arms around at the thought of having a fully automated home cinema system that responds to body gestures

I often wonder why I am not Tom Cruise. The obvious benefits of being minted, married to Katie Holmes and working with Cameron Diaz aside, I can see absolutely no reason why I am not yet controlling my home cinema system in true *Minority Report* style. Why am I still surrounded by a clutter of remote controls, rather than simply gesticulating with my fingers and issuing complex voice commands that simultaneously play Blu-ray, dim the lights and move the volume to ASBO level? There is no reason at all, other than the fact that, as yet, no manufacturer has pulled all these readily available technology components together.

Holographic menus? I stand amazed that the control menus of top-spec 3D TVs are still stoically 2D. Why not map them in 3D to show off the capabilities of the screen, AVR or source equipment? Imagine menu pages that rotate towards you and back into the screen? This style of menu could be simply controlled in 2D, but would really come alive in HD-quality 3D. C'mon manufacturers, even mapping standard GUIs in 3D would be nice.

Voice control? My three-year-old Nissan truck has comprehensive voice-controlled sat nav and phone hookup. The system is yet to get me totally lost or phone an ex-girlfriend by mistake. If I shout 'nearest petrol station', a sultry female voice duly guides me with to one of the government's best tax-generating establishments (I admit that whispering, 'put the bill on that bloke's credit card over there', hasn't worked so far.). And the new Range Rover Evoque's fully-integrated voice control commands everything bar turning the steering wheel. It is also a self-learning system that grows more accustomed to accents or phrases over time.

But what about a gesture-based interface? To anyone who has used an Xbox 360 Kinect that is not a tough question. You can move items on screen, navigate menus and become immersed in

interactive content with the wave of a hand. And this is first-generation motion-sensing technology! With more processing and better imaging devices (both readily available), a Kinect-like interface could map the movements of not just your hand but your fingers, thumbs, facial expressions and pretty much any forward-facing body part you care to employ interactively.

Macarena!

Bring these three components together and you have an AV interface that is straight out of Spielberg's neo-noir classic. I grant you, setting up a complex AV system might look as if you were doing the Macarena on the sofa, but **as I spend around 45 minutes everyday searching for remotes or batteries**, this I can live with. Moreover, the interface could be used to interact with 3D content itself from BD-Live add-ons and camera angle swaps on Blu-ray to literally 'hands-on' control of 3D games.

So who will be the first AVR maker to turn me into Captain John Anderton, Cruise's slick chief of Washington's Pre Crime police force? I guess Pioneer. Or, more likely, a mix of Pioneer and Apple. Spending time with Pioneer's amazing VSX-2012 last month, with its superb iPad control App and its fully intuitive interactive instruction manual, made me realise that the era of the black-stick remote control is nearly over. Pioneer supplies a remote just in case you are one of the three people left on the planet that doesn't own an Apple device, but it is clearly a token gesture. It can't be long now before the traditional AVR remote is an optional extra.

And to leave you on a thought to ponder – just imagine what full body-scanning gesture-mapping and interactive 3D content could do for the porn movie industry. Shudder ●

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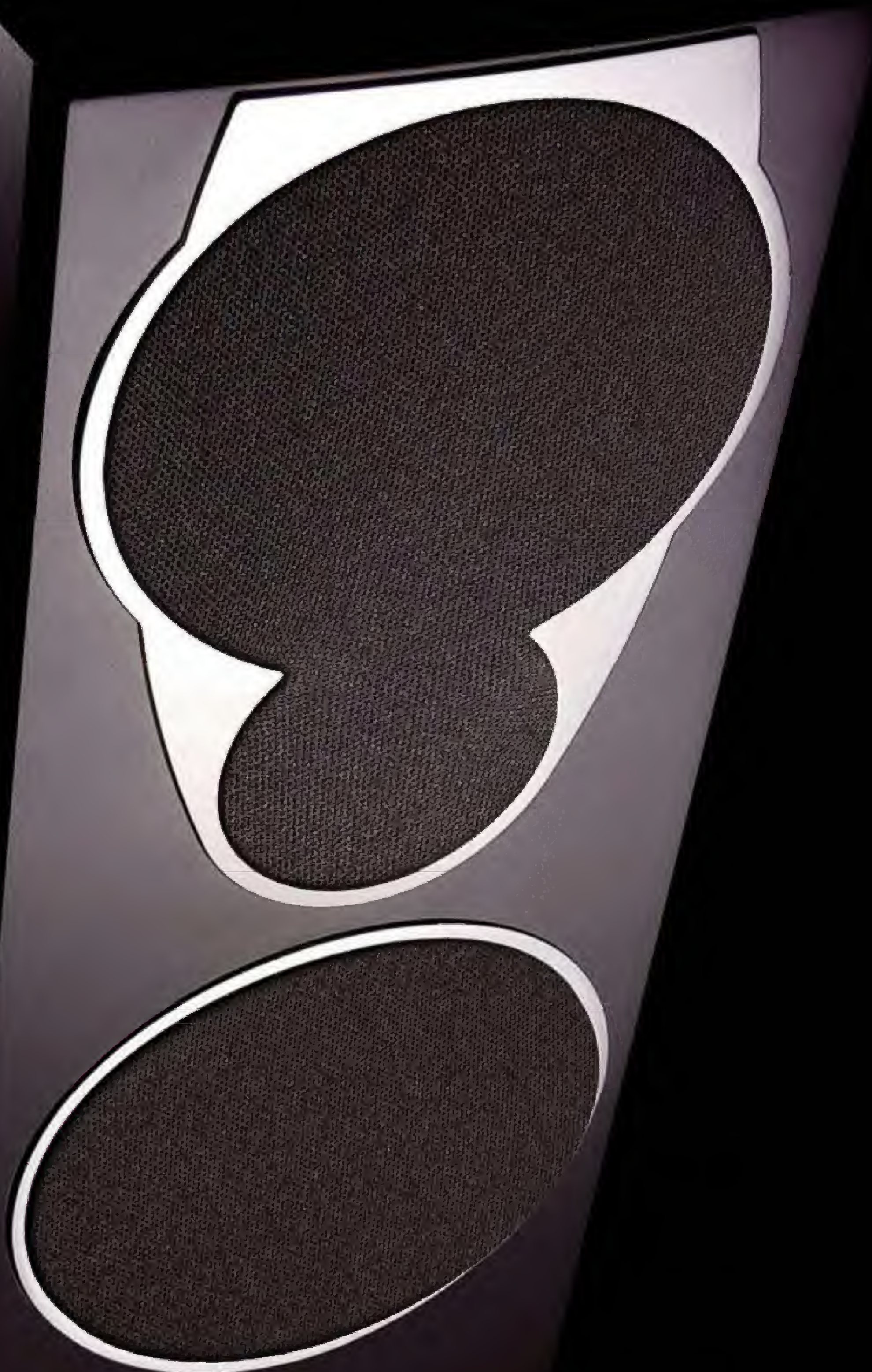


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